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Editor-in-Chief

Professor Gour Baran Kapat, M.Sc., Ph.D.

RESEARCH JOURNAL OF THE DEPARTMENT OF EDUCATION



UNIVERSITY OF CALCUTTA

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2.6.1980

I am happy to note that "OUR EDUCATION" (a research journal) of the Department of Education, Calcutta University, is going to be published very soon. I hope the journal will discuss the nature and the probable solution of the different types of educational problems of our country and will continue to serve as a source of inspiration to the young researchers in the field of Education and allied disciplines.

I convey my warmest congratulations to all teachers of the Department and wish their endeavour all success.

R. K. PODDAR

C O N T E N T S

	Page
Editorial Note	1
A study of some determinants of personality characteristics of preadolescent children —Manjaree Sengupta & G. B. Kapat	2
An investigation into the results of the new Higher Secondary Examination in West Bengal —D. Mahanta	9
Psychology and pedagogy of spelling —B. B. Bhattacharyya	23
A study on the relationship between adjustment and personality characteristics of Higher Secondary school students —A. K. Basu, S. Sarkar & Indrani Mitra	29
Pre-determinism in Education —Jyoti Prasad Banerjee	35
Social and Psychological Factors influencing Juvenile Delinquency —Ramanath Kundu & Gita Bhaumik	41
A new method of the computation of average deviation from a frequency distribution —Sailendra Kumar Ghosh	48

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EDITORIAL NOTE

By the grace of God the Department of Education of the University of Calcutta steps into the thirty first year of its existence. In 1935 the University of Calcutta organised short courses for training of teachers in general subjects, in Science as well as in Geography. Out of these short courses developed a full-fledged Teachers' Training Department of the University in 1940 and the teaching staff included many distinguished educationists of the state. Through their untiring efforts, the Department succeeded in building up a tradition of high academic excellence. In addition to this professional course of teachers the University authorities decided to organize a postgraduate academic course in Education to cope with the increasing demands of our national life and accordingly the University Department of Education with J. M. Sen as its first head came into existence in 1949. The Department (now renamed as the Department of Education including Teachers' Training), offers two courses in Education of which one is purely a one-year professional course (B.Ed.) intended for the training of teachers and the other is a two-year postgraduate academic M.A. & M.Sc. course in Education beyond the B.Ed, or Honours level in Education.

The concept of education as well as of the teaching-training process has undergone tremendous changes during the last fifty years. The method of communication between the teacher and the taught has become more scientific. New techniques of evaluation have evolved through experimental investigation. With the recent increase in the tempo of educational expansion in the country the importance of the subject of Education is being increasingly recognized. There is no denying the fact that the educational situation in the country is very much different from that in Western countries and in the study of our educational problems the socio-economic conditions have to be properly examined. In India we are still struggling hard to improve education, for tradition dies so hard in the country that progressive ideas take long to enter into our educational practices.

The main purpose of our departmental journal is to have an innovative and stimulating effect on educational research by presenting articles from different areas of education with special reference to the problems of our country. I am thankful to the University authorities for the patronage given and also to the whole-hearted cooperation of my learned colleagues who have spared no pains to bring out the first issue of the journal within a short time. And if thereby I have served the cause of our department in any way, I shall deem my endeavour amply rewarded at the fag end of my career.

A STUDY OF SOME DETERMINANTS OF PERSONALITY CHARACTERISTICS OF PREADOLESCENT CHILDREN.

MANJAREE SEN GUPTA* AND G. B. KAPAT†

ABSTRACT

The study aims at investigating into the determinants of personality characteristics of pre-adolescent children in rural and urban settings. The experimental findings reveal in particular high positive correlation between intelligence as a determinant and some of personality characteristics. The sample survey undertaken comprised 240 Ss including boys and girls belonging to age-level 9+ to 12+.

INTRODUCTION

The present investigation was undertaken with a view to studying children's perception of parental socialization processes, parental control and the mental growth or intelligence of the children as affecting some of their personality characteristics.

This study primarily differs from other related studies in as much as that most of the studies have been undertaken to investigate into child's characteristics, from the point of view of the parents, teachers and other groups. This appears to be an indirect method of determining factors affecting the child behavior. The child builds up his fantasies and feelings which may or may not correspond to the actual state of affairs, but he reacts on the basis of his perceptions and fantasies.

It appears more reasonable, therefore, to study how the child perceives his little world comprising of norms and standards laid down by parents and other groups, which is likely to determine the development of his personality characteristics. It is the point of view of the sacrificial animal as he perceives the high priest rather than the other way round.

Most related studies were undertaken in the fifties and early part of sixties. Since then not many papers have appeared in this field, particularly dealing with the preadolescent group. This may be due to the fast changing of value system among younger generation as evidenced by their behavior patterns, in general, in the school and college level. The old values such as respect to institutions (family, parenthood, teachers, friends etc.), customs, norms and beliefs have fallen to pieces. This pattern is obvious from

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the snowballing effects of various movements undertaken by youngsters from time to time at various levels all over the world. It is, therefore, most urgent to reassess the whole problem of interaction from the point of view of the younger people rather than from the point of view of the authoritative institutions.

For the purpose of the study of some determinants of the personality characteristics of children, the preadolescent group has been chosen in consideration of the fact that personality characteristics develop from the very infancy. This group has been chosen, since they are all subject to control by various institutions and yet they stand at the precipice below them lies the turbulent adolescent period into which they are about to dive.

The development of personality characteristics of a child is dependent on many well established factors. The term 'personality characteristics' connotes many things to many people (Allport 1937; Murray, 1938, Kagan and Moss 1962 and more recently Bronfenbrenner, 1970). However, in all these explanations one feature stands out that the concept of personality characteristics is a kind of "dispositional construct" (Carnap, 1936, 1937) quoted by Bronfenbrenner, (1974) who precisely defined it as "A personality characteristic ordinarily implies a tendency toward behavior associated with a particular person under a given set of condition. Most commonly, this behavioral tendency refers to a disposition to act on the part of the subject the person himself." They are assumed to be invariant specific behaviors. These behaviors are not observed directly but their existence is inferred from certain operations performed under specific conditions. (Bronfenbrenner, 1970). The most significant fact about these behaviors is that they follow a developmental pattern.

The influence of the family, peers, teachers and other significant social agents directs the child's development through these actions. By the method of love and rejection or reward and punishment the agents direct the child's development and also act as models to be followed. They, therefore, serve as links of human development.

Of the many personality characteristics three have been chosen as parameters of present investigation. They are (i) aggression, (ii) anxiety and (iii) dependency. A longitudinal work and its follow up was done by Kagan and Moss (1962). Similar work on this line was carried on by Mussen et al (1969), and Blair-Burton (1952). The same personality characteristics have been taken as dependent child variables in this study with the assumption that they are dependent on some determinants.

The determinants chosen are the following; namely, (a) Parental 'support', 'punishment' and 'control' measures as perceived by the children and (b) mental growth as indicated by intelligence. It has been assumed that every child with these characteristics come under the influence of these factors

and are moulded by them. This view has been endorsed in the studies of Mead (1949), Flugel (1929), Sears et al (1953), Varma (1961), Parameswaran (1964), Mehta (1964), Mussen et al (1969) and Hurlock (1972). The personality characteristics are not being directly observed in the present investigation, but has been investigated as revealed through the fantasy responses of the children.

In the present investigation the main issues which have been studied are :

- (1) The dependent variables i.e. the personality characteristics comprising of aggression, anxiety and dependency of the preadolescent boys and girls of the age group 10 + to 12 +.
- (2) The independent variables, i.e. the determinants comprising of (a) parental mode of nurturance, punishment and control; (b) intelligence level of the child.
- (3) The above issues have been studied indirectly from the fantasy responses of the children in an unstructured situation.

Procedure

The old method of studying personality in totality has been rejected by the modern theorists. The modern technique is to study only some aspects (a cross section) of personality development (Wood, 1973), i.e. investigation of some specific areas of development which can be the subject of controlled experiment and observation. The present investigation is in line with this mode of thinking.

Sample

For the purpose of this study, stratified samples have been taken. The sample of preadolescent children of the age group ranging from 10 to 12 of the fifth and sixth grade in two settings, viz. rural and urban areas comprised the Subjects. In rural areas the major part of the population was from agriculturists, field workers, industrial workers, small service holders, village shopkeepers and workers engaged in transport. On the other hand, the sample population of the urban areas was mostly from white collared profession, viz. Children of university teachers, military personnels, government and company officials. In this investigation data were collected from the boys and girls separately, but the observations were pooled together as per method followed by Bronfenbrenner (1974). In all 240 subjects were chosen for this investigation.

Tools

The personality characteristics (aggression, anxiety and dependency) of the children have been measured under fantasy situation. For that purpose the Children's Apperception Test of Bellak (1971) has been applied as a tool for

the determination of the personality variables. CAT has been used in the present study considering the age group of the children tested.

Parent Behavior Inventory

The data for the socialization practice of the parents were obtained from the responses of the children to a series of questions dealing with their perceptions of their fathers' and mothers' socialization processes. These questions were from Cornell Parent Behavior Inventory. This instrument was translated into Bengali and a Structured interview schedule was framed on the basis of this questionnaire. This is a group-directed questionnaire in the form of rating scales intended to be administered on children for their perceptions about the behavior of their parents. The Bengali version of the interview schedule, however, has been modified to collect the perceptions individually.

Intelligence Test

For the purpose of measuring the subject's intelligence level, the intelligence test devised and standardized by G. B. Kapat (1959) has been used. This test was selected on the ground that this is specially applicable to the preadolescent children under typically Indian condition.

COLLECTION OF DATA

Data were collected from four schools of urban and rural areas of West Bengal. In the case of urban areas the two schools were coeducational, whereas in rural areas, one boys' and one girls' schools were taken.

METHOD

All the tests were presented individually and 150 data were collected from each area and were sorted out. After rejecting incomplete and defective responses, 120 complete data were selected from each area for final analysis.

The personality variables and the determinants were interpreted and analysed. The quantified results were then treated by correlational techniques. Product moment coefficient of correlation was calculated between the scores on personality variables and the determinants. In total 42 such correlations were computed.

RESULTS AND DISCUSSION

The correlation between aggression and mother's support is .13 in urban area and that in rural area is — .04, while the correlation between father's support and aggression in children of the two areas mentioned is .25 and .05 respectively.

Table I

The correlation between Personality characteristics and Socialization practices of Children

U R B A N							
	Support		Punishment		Control		
	Mother	Father	Mother	Father	Mother	Father	
Aggression	.13	.25*	.05	.11	—	.30*	.10
Anxiety	.13	.01	.23*	— .04	—	.02	.08
Dependency	.04	.11	— .06	— .09	—	.40*	— .09

R U R A L							
	Support		Punishment		Control		
	M	F	M	F	M	F	
Aggression	— .04	.05	.11	.12	.08	.05	
Anxiety	.03	.04	.06	.04	.02	.18*	
Dependency	.06	.03	— .18*	.13	— .05	.11	

* Significant at .05 confidence level

Table II

The correlation between Personality characteristics and Intelligence

URBAN		Intelligence
Aggression	.31*	
Anxiety	.40*	
Dependency	.20*	
RURAL		
Aggression	.46*	
Anxiety	.53*	
Dependency	.20*	

*Sig. at .05 confidence level

The effect of punishment by parents and aggression in children both in urban and rural areas reveals that when the mother is the punitive agent the correlation between maternal punishment and aggression in children is .05 and .11 respectively in urban and in rural areas ; whereas in father's case the correlation in the urban and rural areas is .11 and .12 respectively.

Regarding parental control, the figure reveals that in urban area, the correlation is $-.30$ and in rural area $+.08$, when the mother is the controlling agent; while in case of the father $r = +.10$ (urban) and $r = +.05$ (rural).

The relation between the support rendered by parents and the consequent development of anxiety in children shows that in the case of mother's support $r = .13$ (urban) and $r = .03$ (rural). When father's support is considered, the correlation is $.01$ (urban) and $.04$ (rural).

The correlation between parental punishment technique as perceived by the children and consequent anxiety development is $.23$ (urban) and $-.06$ (rural), when mother is the punishing agent. Again when father is the punitive agent, the correlation is $-.04$ (urban) and $+.04$ (rural).

The correlation between mother's control and anxiety, as a child behavior in both areas being of the order of $-.02$ and $+.02$ respectively. Whereas father as the controlling figure, the correlation between the father's control and child behavior is $.08$ (urban) and $.18$ (rural).

This study again reveals that in two areas mentioned, the correlation between mother's support and dependency in child is in the order of $.04$ and $-.06$ in the two areas respectively. While the correlation between father's support and dependency in children is $.11$ and $.08$ in two areas, the same between mother's punishment measures and dependency in children is $-.06$ (urban), $-.18$ (rural) and when father is the punishing agent, the correlation between the punishing measure and dependency in children is $-.09$ (urban) and $.13$ (rural). In the case of the effect of parental control on the state of dependency as a child behavior, the correlation between mother's control and dependency in children is -0.40 in urban and $-.08$ in rural areas; whereas that of father's control is $-.09$ and $+.11$ for two areas respectively.

Another determinant is intelligence. The correlation between intelligence and aggression is $.32$ (urban) and $.46$ (rural), between intelligence and anxiety is $.40$ (urban) and $.53$ (rural), and between intelligence and dependency is $.20$ in both the areas.

CONCLUSION

The above results indicate that parental support, punishment and control on preadolescent children in both urban and rural areas can be considered as determinants of aggression, anxiety and dependency so far as fantasy responses are concerned. This study reveals that mother's control measures are relatively less effective in the development of personality traits and more so in rural areas, whereas father's control measures are relatively significant showing a positive correlation trend, particularly so in rural areas. In urban areas, mother is considered as a more important punitive agent than the father.

We do not know whether the findings indicated above will persist and maintain their character if the experiment is continued long with longer and larger number of cases. But one thing seems to stand out very clearly that there is ample justification in using intelligence as an influencing factor. It is found that intelligence has a very high and positive correlation with three personality characteristics considered in the investigation. Further studies of similar nature at different age periods vis-a-vis intelligence are likely to yield valuable and important data.

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AN INVESTIGATION INTO THE RESULTS OF THE NEW HIGHER SECONDARY EXAMINATION IN WEST BENGAL

- D. MAHANTA *

ABSTRACT

This study analyses the results of Higher Secondary Examinations held in 1978 and 1979. It speaks of the various causes that contribute to large number of failure in the 'last two years' examinations. Finally, it offers suggestions for making the Higher Secondary Examination viable from various points of view.

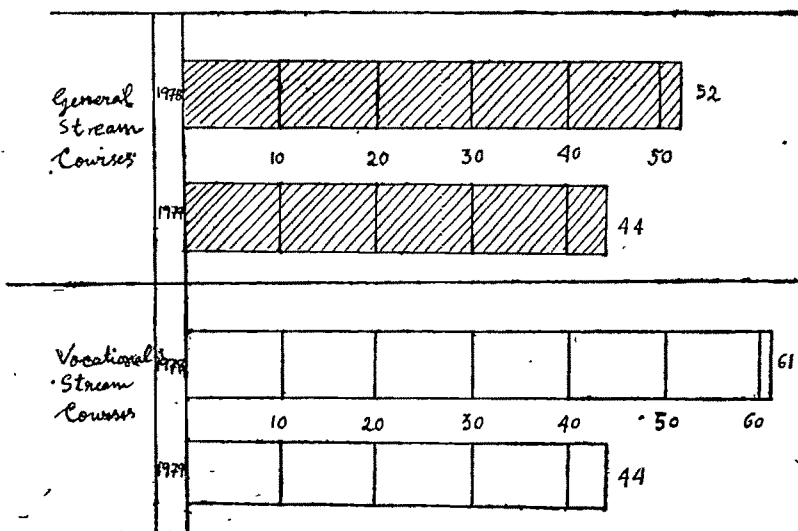
—EDITOR.

INTRODUCTION

The W.B.C.H.S.E. (West Bengal Council of Higher Secondary Education) has so far held two final examinations, one in May, 1978 and the other in May, 1979. From the available reports it is seen that about 1,03,000 students took the said examination under the General Stream Courses in 1979 as against the corresponding figures of 58,000 * in 1978 and about 2,300 students took the said examination under the Vocational Stream Courses in 1979 as against 1800 * in 1978.

A rough survey of the results thereof would show that the 'Pass' percentages under the General Stream Courses were 44 in 1979 * as against 52 in 1978 * and that the corresponding figures under the Vocational Stream Courses were 44 in 1979 * as against 61 in 1978 *. The figures are graphically represented below :

-- PERCENTAGE OF 'PASS' IN H. S. EXAMINATION

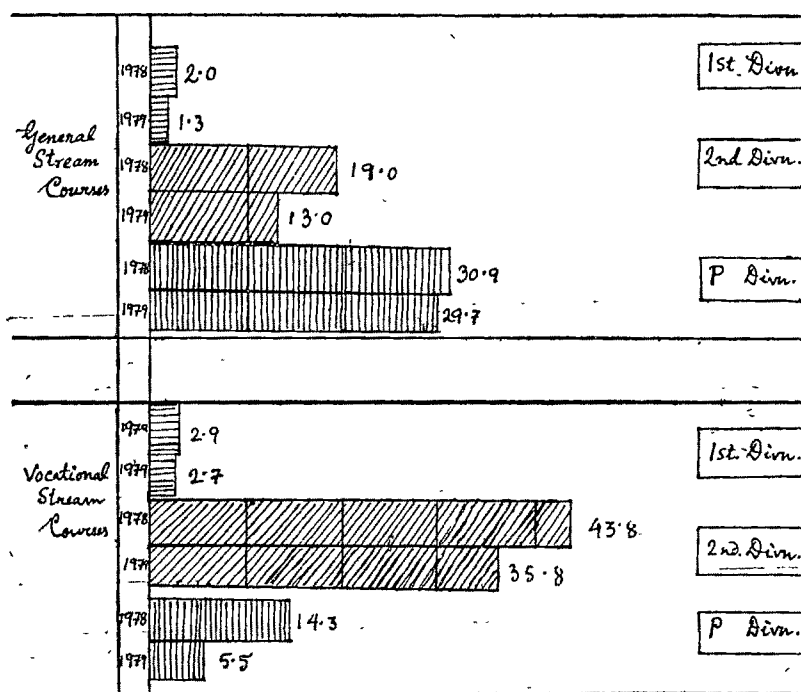


* Figures are quoted in rounded numbers.

* Jadavpur Vidyapith College of Education, Jadavpur University.

The quantitative decrease in the percentage figures of successful candidates in respect of both the stream-courses would normally appear to be disturbing to many. But when analysed further the results of the two years' Final Examinations would clearly indicate that there has been an alarming deterioration in the achievement standards of even the successful candidates in the said examinations. The percentages of students who passed the examinations under the General Stream Courses in the first, second and 'Pass' divisions were nearly 1.3, 13.0 and 29.7 respectively in 1979, as against the corresponding figures of 2.0, 19.0, and 30.9 in 1978. Similarly the percentages of students who passed the examinations under the Vocational Stream Courses in the three divisions of first, second and 'Pass' were 2.7, 35.8 and 5.5 respectively in 1979, as against the corresponding figures of 2.9, 43.8 and 14.3 in 1978.

THE GRAPHICAL REPRESENTATIONS OF THE ABOVE FIGURES ARE GIVEN BELOW :



People who are a bit educationally conscious may be inclined to set forth this sort of deterioration in the results of the new H.S. Examination as somewhat ominous for this latest educational enterprise; some may even go further to brand this sort of 'mass-failure' as an educational 'disaster'.

Consequently a critical appraisal of this unhappy incident is in order. It is true that the 'form' or 'structure' of the New H.S. Examination was to be thought out anew to fit in with the changed scheme of higher secondary education at the plus two stage and that the related 'Rules and Regulations' of the said Examination system alongwith the procedures of assessment thereof had to be devised accordingly. It is perhaps natural that difficulties and setbacks that are generally associated with the initial phase of any new programme of action might tend to culminate into diverse problems of difficult complexities. But, then, these difficulties should have been envisaged by the concerned authorities and the related administrators and the personnel on the executive side alerted accordingly. Are we, for the matter, allowed to assume that for successful implementation of the new scheme of XII Class H.S. Education appropriate planning and organisation were made with adequate provision of men, materials and money in that regard? Can we also take it for granted that necessary steps were taken by H.S. Council to ensure proper orientation of the teachers and examiners and other 'key-personnels' connected with the programme of the new Higher Secondary Examination?

It is also one of the preconditions that the task of devising and/or selecting the most appropriate examination-techniques and of developing suitable tools and materials for the purpose should be completed in due time.

So far as we know, the W.B.C.H.S.E. made timely arrangements for 'contact conferences' with the Heads of the related institutions and placed before them the aims and objectives of H.S. Education in general and the curricular designs in particular. Thereafter quite a good number of 'subject seminars' on most of the major subjects of the new H.S. Course were organised for the benefit of the concerned teachers who were to undertake the arduous task of 'instruction' at the 'plus two stage' in both the general and the vocational streams. As a 'feed back' measure and also by way of supplementing the work done at the 'contact conferences' and the 'subject seminars', the Council published a few booklets like the 'Introductory Notes' on the new H.S. Curriculum as a whole, 'Teaching Guidelines' on the different subjects classified under the four areas of (i) Languages (ii) Laboratory-based subjects (iii) Non-laboratory subjects and (iv) Vocational subjects etc. The Council also arranged to publish a monthly journal 'Samsad parichiti' for dissemination of all relevant and useful information to parties concerned. Moreover, on the basis of the assumption that the nature of the New H.S. Course, — its bifurcated curricular design and the related subject-organisations as well as its tridimensional objects — preparatory, terminal and developmental, — should be supported by a new style of examination, the Council had thought out one such style where the students would feel inspired to have and enjoy the privilege of sharing the responsibility and even of deciding for themselves the best way of doing the examination successfully and wholly. It is reported that the Council had in-

initially planned to have an improved system of examination, namely, (i) a 'distributive' system of 'subject-based' examinations as against the 'package' system of 'global' assessment and (ii) a 'Grade' system of evaluation as against the usual one of 'numerical' marking. But failing to orientate the Government and the so-called 'vociferous' elites of the society the Council had to refrain from introducing those new styles and systems. It was really surprising to see that such an unfortunate 'reaction' could come at a time when the 'progressive' 'Left-Front' parties had been in power to give '*new directions*' to different aspects of the 'State Administration', including 'Education' which is acclaimed to be one of the most potential 'tools' of social reconstruction on democratic and scientific lines. It is all the more distressing to find that certain other 'regressive tendencies' are being thought of at present to pull us back to the old traditional and colonial system of examination-procedures.

Any way, going back to our initial point of discussion we may submit that apart from these procedural auxiliaries, the Council was reported to have conceived of a few desirable measures that could improve the intrinsic qualities of the new H.S. Examination; for example, —

- (a) Orientation of the paper-setters in regard to '*nature*' of questions (involving knowledge, understanding, application, skill, appreciation, etc.), the '*type*' of questions (including long-answer, short-answer and objective) and the '*level*' of questions (ie. easy, moderate and difficult) that are to be appropriately utilised in a particular Question-paper with apportionment of relative weightages between them, paper-wise as well as question-wise.
- (b) Publication of sample 'Question-items' in respect of each of the subjects included in the curriculum which would suitably reflect their pattern and quality.

Lastly, the Council was pleased to have responded gracefully to the teachers' demand for '*rational reduction*' of the content-load in respect of all the subjects with a view to helping the learners to complete the 'Course' within the period actually available.

However, inspite of all these 'administrative measures', 'pedagogical steps', and 'conciliatory moves' the end-results have turned out to be highly disappointing, the results of the second examination having fallen far short of our expectations. How could it be that longer experience and obviously greater confidence on the part of our 'teachers' had been of no avail? How, again, would we explain the fall in the percentage of first divisioners and second divisioners from 2.0 to 1.3 and from 19.0 to 13.0 respectively? It is almost unbelievable to assume that there has been a sharp fall in 'academic' ability of the students concerned. There was no national calamity of pervading nature, no political upheaval in the State; minor regional disturbances apart, the social and educational climate of the State was rather calm and cool.

How, then, can we explain the calamity? Could it be that there has been something damagingly wrong in the Council's administrative decisions, particularly in regard to the operational and procedural aspect of the second year's examination? Perhaps we should leave aside these 'innermost corners' which can be probed into and enlightened by a 'Departmental' Body only. Let us try to 'analyse' the 'outer features' and to 'peel' them as far as possible, with a view to X-raying the probable causes of the disastrous results of the H.S. Examination.

Firstly, we may try to review the curricular structure of the H.S. Course. The scheme of studies at the H.S. stage, we know, consists of two broad streams, (i) General and (ii) Vocational, though this sort of bifurcation is virtually contrary to the much-publicised national policy of '*Vocationalisation*' of education at the H.S. stage. Moreover, the nature of the two streams differs substantially; the general stream-courses are intended to be 'preparatory' and the vocational stream-courses 'terminal' in nature. But to our utter surprise we find that, from the stand-point of the 'examination scheme', there is no such separate standard, no distinctly separate rules and regulations for these two streams of 'general' and 'vocational', so as to categorise them either way. We know as well that a 'preparatory' course at the secondary level can fit in well with a '*selective system*' of the colonial and bureaucratic form of education, but not with an egalitarian system of the democratic and socialistic form of national education that is constitutionally pledged to the policy of equalisation of educational opportunities and consequently to that of extension of educational facilities to the hitherto disadvantaged section of our population. The obvious claim, therefore, is that the nature of the 'general' stream courses should be changed immediately from 'preparatory' to 'terminal'. Such a transformation is likely to have favourable effect upon the results of the H.S. Examination and also to help us turn our eyes once again, towards the declared goal of 'vocationalisation' of Higher Secondary education.

Secondly, let us direct our attention to certain anomalies in the language-sector,—the sector that accounts for the largest number of failures in the H.S. Examination. Of course it may not be proper for us to single out the H.S. Examination in this regard; the largest percentage of failures in both the Madhyamik Pariksha (Secondary Examination) at the lower stage and the Bachelor of Arts Examination at the higher stage are also attributable to this language sector. The obvious implications are that we shall have to reduce the learning load of this language sector to the minimum at all the three stages of education, secondary, higher secondary and collegiate. Contrarily, we are to work on the fatal assumption that either the West Bengal school children are deficient in 'language ability' or the West Bengal teachers are lacking in 'language competence' or both. As we know, a student at the H.S.

stage has to offer compulsorily *two* languages, one of which, again, shall be English, both these languages (to be studied) being of equivalent standard and of the level of what we usually understand by a *first* language. At the lower secondary stage, however, these students offered only one language (mostly the mother tongue) at the first language level and the others at the second and/or the third language levels. Consequently a student studying a language (English in the majority cases and Bengali only in a few cases) at the level of a 'second language' at the lower secondary stage is forced to offer that language at the H.S. stage and to study it at the higher level of a '*first language*'. This is perhaps 'too much' for any student of 'average' merit. Though the Council had to revise the initial syllabuses (which were adjudged by our teachers to be too heavy in view of the 'accompanying constraints'), the difficulties of the language sector could not be satisfactorily solved and perhaps would not be solved unless the Council would make a radical change in their policy and decide to introduce and provide *major* and *minor* concepts in regard to the principal languages that can be offered by a student under Group B of the language sector. It was, again, surprising to find that when the demand of only a few candidates for an 'Alternative English' under Group B of the language sector was conceded to, under the influential pressure of the relevant 'power-group', the Council did not think of making similar provisions of '*Alternatives*' in respect of the four other principal languages of the State,—Bengali, Hindi, Urdu and Nepali, which the Council should have done as per the democratic norms of fairness and justice. Evidently the pressure-group for 'Alternative English' was powerful and vocal enough to make the Council respond to their singular demand and allow them to enjoy an 'undue' privilege.

Anyway, it appears that the best course would perhaps be to do away with the idea of having *two languages* to be studied compulsorily by all students. Only one language will be 'compulsory' and the candidates may, if they so like, offer one or two or even more languages under the 'optional' elective sector ; and I believe that students with linguistic aptitude and interest would find it useful to take up the other language subjects on an 'additional' basis.

When we thus decide *not to make* the second language under Group B (of the language sector) *compulsory* we may think of providing in its place an elective practical subject under *anyone* of the classified *occupations* that would be highly relevant to the *cluster* of elective subjects that the candidate would opt for himself or herself under the elective sector of the H.S. Course. In fact, this would be the most desirable step towards transforming the nature of the H.S. Course from bifurcated streaming (General & Vocational) to vocationalisation *proper*.

Alternatively, we may think of rearranging the subjects under the 'Elective Sector' in such a manner and with provision for the requisite amount of practical work that students who complete successfully the H.S. Examination

may be in a position to go in straightway for higher training in a suitable family of occupations. On an analytic survey of the institutional courses and training facilities that are at present available in the State, we may justifiably consider the 'grouping' of elective subjects under the following heads :

- (i) Agriculture
- (ii) Arts and crafts
- (iii) Behavioural sciences
- (iv) Bio-Sciences (Medical)
- (v) Commerce
- (vi) Geo-Sciences
- (vii) Home Sciences
- (viii) Moral Sciences
- (ix) Physical Sciences
- (x) Social Sciences
- (xi) Technical
- (xii) Veterinary
- (xiii) Literature
- (xiv) Journalism

A few subjects like Mathematics, Economics etc. may be allowed to cross-cut between the groupings whenever needed. It goes without saying that the above groupings 'are to be regarded as provisional' and that some additions and alterations may have to be made later, to suit our emerging requirements, by way of providing 'stretch-outs' to the students for the next stage of diversified and specialised training at the higher level.

But it is, again, absolutely necessary that all such goals and '*objectives*' of education are duly reflected in the system of 'Examination' which interalia should aim at, besides monitoring of standards, encouraging and even urging the students to work up to the limit of their potentialities in and through following up their respective aspirations. That was perhaps the Council's intention when it initially proposed to have a '*distributive*' form of examination with a differentiated structure of students' assessment in different subjects in terms of 'grades' and 'credits'. But, as ill luck would have it, the Council's proposal for a new style of examination found a rocky soil in the Departmental Authorities of the State and, as a consequence, the Council had to revert to the old form of 'package' type assessment with the usual numerical marking system and the traditional concept of 'Pass' or 'fail' on the percentage basis.

The 'end results', as cited earlier, had been the disastrous 'mass-failure', the irrational branding of more than half the examinees as 'rejected', the current figures (in numbers) having soared up to near about sixty thousand. Should we just lament the sad lot of the unfortunate students as '*inevitable*' or '*destined*' like the amateurish philosophers or the road-

side astrologers? Should we allow the so-called bureaucrats and the elites who are at the helm of affairs and who shamelessly pose as 'omniscient experts' even in pedagogical matters, to stand giggling on the fence and lie in wait for the next mischief? Perhaps we should not. We have had enough of the hypocritical hegemony and it is high time that we shake off our lethargy and force the authorities concerned to pursue matters on democratic and scientific lines.

For an emerging 'nation' like ours, pledged as we are to the coveted principles of democracy and socialism, equalisation of educational opportunities and, for the matter, expansion of educational facilities at a faster rate to the hitherto disadvantaged section of the population (the so-called 'Harijans' in education) is a must. And for ensuring proper justice in the matter we cannot but modify alongwith, the earlier pattern of curriculum and examination that suited mostly a selective system of colonial education. The new principles of life-long education (as propounded by Unesco in 1972); grounded on egalitarian values, put much emphasis on equality and democratisation and as such they are especially significant for our examination matters. It is all the more essential that we modify our examination procedures accordingly, as otherwise the majority of learners belonging to the hitherto socially disadvantaged section of the population, the so-called first generation learners, would invariably be branded, *by the traditional scale*, as either 'total failures' or as the 'much-maligned' 'third-divisioners' or 'P's as per the current nomenclature. In other words, social elitism and unwholesome competition among learners should no longer be allowed to dominate the field of evaluation.

The needed orientation, therefore, would prompt us to prepare ourselves for the change-over to a differentiated form of terminal curriculum as against the old form of preparatory curriculum and to a 'distributive' system of examination. We have also to be motivated to swing over to a 'grade' system of assessment in place of the current one of numerical marking.

As early as May, 1976 in an article on 'Higher Secondary Education in West Bengal',* I put forward a new style of examination, wherein the students would be directly urged 'to share', on their own, the responsibility, and even to take greater responsibility, of doing the examination, instead of just 'bearing' the responsibility under duress. In regard to the 'assessment techniques' I placed a proposal wherein I pleaded for a more or less uniform policy of using similar type of scoring principles in respect of all the curricular subjects through a comparable pattern of rating scales, while assessing the students' answers in the scripts of different subjects. For example, let us suppose that a particular question in a paper of a particular subject is given, in terms of its proportionate importance or value, a weightage of 2, 3, 4, 5, 6, 7, 8, 9 or 10; the answers

*Bulletin of the W.B.H.A., Calcutta, May, 1976.

given by students to that question would correspondingly be rated on a 3-pt, 4-pt, 5-pt, 6-pt, 7-pt, 8-pt, 9-pt, 10-pt or 11-pt scale. The total 'rate-points' thus obtained by a particular student in respect of a particular subject would indicate his or her 'average' performance in the subject concerned, and that again would be subsequently converted, as per a 'Norm-Table' prepared for the purpose, into 'grade-values', letter-grades or credit-symbols for each subject.

Even if radical reforms are not immediately feasible, the publication of results, as obtaining at present under the existing procedure of assesment can be, I suggested, a bit modified and changed into a 'distributive' form of results to be reported subsequently in terms of letter-grades, for different subjects *severally* (and not *globally*) in respect of each and every student.

In order to demonstrate how the proposed style of reporting results would work out in practice I would like to place here a summary-account of an experiment that I could carry out with the kind permission of Dr. D. S. Ganguly, erstwhile President of the West Bengal Council of Higher Secondary Education, in respect of the results of the H.S. Examination, 1978. Here the scores obtained by the candidates concerned in different subjects constituted the population. The number of score-sets that were sampled for the purpose belonged to the General Stream Courses only and it stood at 1766 sets. Following the Council's pedagogical decision to classify the subjects of the General Stream courses under three heads, namely, languages, laboratory-based subjects and non-laboratory subjects (vide the Council's 'Teaching Guidelines' published in this context) the sample score-sets were also grouped under three similar sub-sets. So far as the method of sampling was concerned I would submit that a sort of systematic sampling was followed to pick out the highest as well as the lowest scores in respect of the above three subject-groups (Languages, Laboratory-based subjects and Non-laboratory subjects) on each full page of the 'Record Books' used for the purpose. The rationale behind selecting only the highest scores and the lowest scores in this regard was that the 'score-distributions' so obtained would allow us to estimate the maximum possible 'range' of dispersion in respect of all the score-sets which in their turn would enable us to work out the intended 'grading' of scores in the best possible way.

Statistical findings, as obtained, were as follows :

Table I
Score-values (in %) in respect of the 'language' subjects

	Highest Score Group	Lowest Score Group	Combined Group
N	883	883	1766
Mean	50.5	15.8	33.2
S.D.	7.5	7.5	X

Table II

Score-values (in %) in respect of the laboratory-based subjects

	Highest Score Group	Lowest Score Group	Combined Group
N	479	479	958
Mean	70.6	18.8	44.7
S.D.	11.5	9.3	X

Table III

Score-values (in %) in respect of the Non-laboratory subjects

	Highest Score Group	Lowest Score Group	Combined Group
N	404	404	808
Mean	60.8	19.2	40.0
S.D.	6.6	7.0	X

As far as we could estimate from the generalised picture of the related score-distributions of the three subject-groups, the highest-score-estimates were expected to be 97% for the laboratory based subjects, 82% for the non-laboratory subjects and 77% for the language subjects. On detailed scrutiny, however, a discrepancy was noticed in respect of the laboratory-based subjects; only the subject of mathematics did give us an actual highest score of near about 97%, the other laboratory-based subjects like Physics, Chemistry etc. fell far behind as they could give an actual highest score of near about 91% only. It was, therefore, considered desirable that the subject of Mathematics should be singled out and separated for 'gradation' purposes.

Following the current procedures of 'seven-point' grading, the approximate value of the 'grade-deviation' measures for the different subject or subject-groups were calculated as follows :

Table IV

(The figures below are all given in percentages)

Formula used for Grade-Deviation measure being

$$[(\text{Related Highest Score} + 1) - \text{Pass Marks}] \div 5$$

$$(i) \text{ Mathematics :— } \frac{(97+1) - 30}{5} = 14 \text{ (rounded.)}$$

$$(ii) \text{ Laboratory-based Subjects :— } \frac{(91+1) - 30}{5} = 12 \text{ (rounded)}$$

$$(iii) \text{ Non-laboratory Subjects : } \frac{(82+1)-30}{5} = 11 \text{ (rounded)}$$

$$(iv) \text{ Language Subjects : } \frac{(77+1)-30}{5} = 10 \text{ (rounded)}$$

Following, again, the usual procedures of estimation we could obtain the resulting Table of 'Grade-equivalents' for different degrees of achievement (in %) in respect of the four categories of subject or subject-groups. The Table is presented below :

Table V
Table of Grade-equivalents

Mathematics	Laboratory-based subject	Non-Laboratory Subjects	Languages	Letter-grades assigned	Grade-Descriptions (as commonly understood)
86 and above	78 and above	74 and above	70 and above	Os	Outstanding
72-85	66-77	63-73	60-69	A	Very Good
58-71	54-65	52-62	50-59	B	Good
44-57	42-53	41-51	40-49	C	Satisfactory
30-43	30-41	30-40	30-39	D	Fair
16-29	18-29	19-29	20-29	E	Poor
15 & below	17 and below	18 and below	19 and below	F	Very Poor

Bearing in mind that errors in the assignment of 'grades' cannot be completely ruled out, it will be advisable to have the 'borderline-marks' as shown below reviewed and rechecked by the respective Examiners and Head Examiners and the assigned marks so finalised as to place the candidates concerned on either of the 'grades' as indicated against each.

When, however, the Council would be in a position to sufficiently orientate its examiners of different subjects to follow a more or less uniform principle of marking 'answers' as per the corresponding rating scales, there would be only one set of 'grade-equivalents' for all the subjects, and that again would be

the same as the one suggested here in case of the subject of 'Mathematics' and reproduced below :

Table VI
(Borderline-marks are all given in percentages)

Mathematics	Laborator- Based subjects	Non- Laboratory subjects	Languages	Grades concerned
85 & 86	77 & 78	73 & 74	69 & 70	Os and A
71 & 72	65 & 66	62 & 63	59 & 60	A and B
57 & 58	53 & 54	51 & 52	49 & 50	B and C
43 & 44	41 & 42	40 & 41	39 & 40	C and D
29 & 30	29 & 30	29 & 30	29 & 30	D and E
15 & 16	17 & 18	18 & 19	19 & 20	E and F

Table VII

Marks in %	Letter-grades	Grade-descriptions (as commonly understood)
86 and above	Os	Outstanding
72-85	A	Very Good
58-71	B	Good
44-57	C	Satisfactory
30-43	D	Fair
16-29	E	Poor
15 and below	F	Very Poor

The 'review cases, again, should cover the border-line marks as given hereunder':

Table VIII

Border line marks in %	Grades concerned
85 and 86	Os and A
71 and 72	A and B
57 and 58	B and C
43 and 44	C and D
29 and 30	D and E
15 and 16	E and F

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But it is really unfortunate that instead of taking a firm stand about the progressive line of action of the above type, the Council still hangs on to the traditional form of 'package' system of 'Pass' or 'fail', and of categorisation of successful candidates into 'first divisioners', 'second divisioners' and 'P' divisioners on the basis of the 'raw' aggregate marks. And to counteract the public criticism against 'mass-failure', the Council could still be clinging to the *hackneyed* practice of surreptitious award of 'grace' or 'compensatory' marks or similar other disgraceful 'doles' to boost up superficially the 'pass-percentage'.

Then, again, in order to push up the percentage figures of 'first divisioners' and 'second divisioners', the Council is understood to have decided to revert to the old dubious practice of extending 'undue benefits' to only a minority group of 'socially advantaged' students who can, in view of the *high cultural* or socio-economic status of their own or of their institutions can well afford to take up an 'additional elective' subject to pump up their 'career', through addition of the excess mark (over the pass-marks) to their actual aggregate. Incidentally, I would like to refer to the rising demands in the socialist-democratic countries of the world for adequate recognition of the '*educational fact*' that the apparent ability-differences among individuals are attributable more to environmental factors than to hereditary ones, and consequently no much extra privileges are to be extended to any body on that account. Moreover, it can in no way be rationally justified that a student should get his '*division-rating*' against a total of 1000 when he actually secures his aggregate out of a total of 1200, (less the pass-marks of 60 in the additional subject). Let us take an example. The boy who stood first in the H.S. Examination, 1978, got an aggregate of 802 (i.e. about 80% marks). Suppose, his degree of achievement in the additional elective subject was proportionate to that in the aggregate with only compulsory subjects then his raw-score 'aggregate' would be pumped up to near about 900 marks, giving a percentage figure of 90, or in other words a 'gain' of 10% (as dividend?) over his actual performance rate. How can we allow such a deceitful practice even at the stage of democratic-scientific ideals of a national system of education? It is not at all a '*desirable inducement*', as vindicated so long; it cannot likewise be supported on the plea that, as other States have been doing it, our children should not be made to suffer. If we really want to raise up the 'achievement standard' of our students, let all of them enjoy a fair deal and strive hard for the same, under the able guidance of our teachers. In fact, that is the only correct way to root out 'bad' practices and fight out 'unhealthy' procedures. The sooner we do away with '*rationalisations*', the better for us.

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PSYCHOLOGY AND PEDAGOGY OF SPELLING

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ABSTRACT

The article gives an account of Psychology and Pedagogy of a school subject — spelling. It entails different facets on spelling emphasizing diagnostic and prognostic values—EDITOR.

INTRODUCTION

Correct spelling should be regarded as an indispensable part of our language skill. Without it, we can not expect to get a complete command over the language.

It is interesting to note that the writers in the pre-printing period in England spelled words according to their fancy. Even Shakespeare spelled his names differently at different times in his life. The publication of the first English Dictionary by Dr. Samuel Johnson in 1755 did more than anything else to standardise English spelling. Spelling in English language, that is still in a fluid condition, can be seen by comparing a number of different dictionaries. As example, The Oxford English Dictionary and Webster English Dictionary spell different words differently.

The nonphonetic character of English spelling is a great drawback to the more extended use of English language in foreign countries and constitutes a problem of the first magnitude in schools where English is the mother tongue.

Psychological basis of Spelling

Spelling is the capacity of pronouncing correctly the different letters constituting a given word according to the accepted standard. Prof. Sandiford, in his book Educational Psychology, gives the following definition of spelling: "Spelling is a sensori-motor habit acquired by repeated motor reactions to certain sensori-stimuli. The arousal may be due to a sound stimulus. In free composition the arousal may be due to memory of a word which fits a felt meaning". In writing the word or in spelling it aloud, the conventional order of the letters must be known. This knowledge is obtained by seeing or hearing the letters in a given order and by thinking, speaking or writing them in the order in which they are seen or, heard. As in all habits, repeated practice is necessary before the bonds are firmly established. In free composition, spelling is wholly given over to the kinaes.

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thetic system. In spelling, the writing of one letter becomes the stimulus for the next letter in the word.

Garding of words according to the needs

Since it is impossible for pupils to learn to spell every word in the language, the first thing to be settled is what words we should teach them to spell. In older primers in Bengali language, many words are included for spelling which are obsolete and meaningless to the children in their own social needs. As for Bengali language, and also for other languages of India, Sanskrit is the origin. So in spelling words we follow the same rules as we do for Sanskrit. Again many words in our languages are modified due to the local usage and needs; so they follow special rules for their spellings. But fortunately in one respect our Indian languages differ from English language. In English language, spelling and pronunciation of words do not in general follow some special rules. But our words in the case of their spelling are based on phonetics.

In English language, many investigators have done important work in this line. Horn in his book "*The thousand words most commonly used in writing*" has done an important work in spelling, what Thorndike did for reading by his *Teachers' Work Book*. Horn has tabulated from a count of over 5,000,000 words, tenthousand words which occur most frequently. The work is based on the following special investigations; viz.

- (a) The vocabulary of business letters,
- (b) The vocabulary of letters written by Literary Men,
- (c) The vocabulary of letters of Application and Recommendations,
- (d) The vocabulary of correspondence of personal nature.
- (e) The vocabulary of materials contributed by Laymen to Newspapers and Magazines.
- (f) The vocabulary of Minutes, Sets of resolutions and Reports of committees.
- (g) The vocabulary of excuses written by parents to teachers.
- (h) The personal correspondence of college students at the University of Iowa.

Unfortunately no such study is done in Indian Languages. Similar studies should be encouraged for our Indian Languages. Words used for various purposes and by various sources, should be collected and tabulated according to their frequencies. If possible they can be classified for different age groups by finding the percentage of children for different age groups or grades, who can spell each of the words correctly. This can provide a list of words from the easiest to the most difficult. The opinions of competent teachers can be collected. The main idea beyond this study is that the spelling of a word should be taught when the child needs to use it in writing and in reading.

The teaching of spelling

The teaching of spelling is related with the development of complete language art programme. The words which children do not require to use, can be omitted from their primers and text books and those words they can safely omit for spelling.

However the development of *Spelling Ability* is related with several psychological and physiological factors. Briefly they can be stated as the following :

(a) Home condition (b) Age and Maturity (c) Experience (d) Memory (e) Intelligence (f) Attention (g) The ability to perceive differences between two visual signs (h) Social and cultural environment (i) Good schooling (j) Reading habits (k) Rules of Grammar and phonetics.

On discussing the methods of teaching spelling, Sandiford writes that the earlier psychology of spelling was certainly false. Because it assumed that the spelling was a method of memory supported by certain rules and this led to a false pedagogy of the subject in which lists of isolated words from a spelling book played a conspicuous part. Sandiford thinks that the memory has little to do with spelling. Rules also play a minor role in spelling. Of course there are certain rules but with numerous exceptions. But psychologists think that the maturity is the greatest single factors in learning to spell.

EXPERIMENTS OF SPELLING

1. *The writing vocabulary of children*

A large number of investigations have been made on the writing vocabularies of children. Among the types of writing sampled, are themes written in school subjects, themes written in connection with special research projects which provide specific topics upon which to write and letters written by children both in and out of school.

The next extensive study of the vocabulary of the writing of elementary school children was made by Rinsland, who analysed more than six million running words from children's writing, including letters, themes, examination papers and other miscellaneous materials from a large number of schools with a wide geographical distribution. Rinsland found out frequencies for most common words grade by grade. For example, *time, they, theme, to, she, was, when and you* are listed in all grades in the first hundred of highest frequency. Again there is a clear evidence of the heavy influence of the curriculum upon the vocabulary. For example, *caravan, kayak, peasant and polar* listed with relatively high frequency in grade four, undoubtedly reflect instruction in Geography.

The investigations of Ashbangh, Fitzgerald and Francis and those summarised by Menee, in which words are tabulated from letters written by

children outside of school, clearly represent one important need that children have for spelling. A very interesting investigation has been made by Madeline Horn who tabulated 893266 running words of spoken vocabulary of kindergarten children in various parts of U.S.A. More than 7000 different words were found.

Reading and spelling

Children learn to spell many words through reading. The co-efficients of correlation that have been reported between Reading and spelling are relatively high as between intelligence and reading. The contributions of reading to spelling are not limited to the words that children learn to spell. Many auxillary abilities are developed, such as the use of dictionary, improvement of pronunciation through oral reading and the ability to associate letters with sounds. There is some evidence that the instruction in *phonics* is more beneficial to spelling than to reading, although given in connection with reading programme.

Influence of speech upon spelling

A number of investigators have pointed out that shortcomings in speech, such as mispronunciations and articulatory defects are often related to disabilities in spelling. A removal of these shortcomings in speech should improve spelling ability. The problem is complicated, because relatively few sounds have only one spelling and a large proportion of words have more than one correct or accepted pronunciation. Regional differences, as well as differences between formal and informal speech must be considered. We can point out that in Bengal, in different districts methods of pronunciations are different.

The influence of Handwriting upon spelling

Deficiencies in the speed or quality of Hand writing are commonly listed among the factors that contribute to spelling disability. While the correlations reported between Handwriting and Spelling are not high, very poor spellers are more likely to be deficient in hand writing ability than excellent spellers. A part of this relationship may be due, however, to the inability of slow learners to write words in the line allowed in tests and to the common practice of counting words wrong that are illegibly written.

A large majority of schools using manuscript writing reports favourable effects upon spelling. The available evidence somewhat inconsistent, indicates that the advantages of manuscript over cursive writing, if any, are very slight. It seems reasonable to assume that the improvement in the speed and quality of hand writing in any grade should enable students to write words with greater facility and hence to improve their scores on written tests in spelling.

Moreover as hand writing improves, all written work is facilitated, with consequent increased potential benefits to spelling.

Value of spelling rules

A very large proportion of words written by adults and childrens contain prefixes and suffixes added to English base words. It seems reasonable to expect that some attention to the way in which prefixes and suffixes are added to base words, would improve the spelling of derived forms as well as expand the pupils' written vocabulary. The available evidence on the effectiveness of such practice is consistently favourable. It applies chiefly, however, to the adding of suffixes.

Those rules of spelling should be taught, that can be applied to a large number of words with few exceptions. As example, the rules for adding suffixes (changing y to i, dropping final silent e, doubling the final consonant) are helpful for correct spelling. The following rules are also important. (1) The letter q is followed by u in common English words. (2) English words do not end in v. (3) Proper nouns and most adjectives formed from proper nouns should begin with capital letters.

Methods of teaching spelling rule

Rules can be effectively taught by the following methods :

(a) Each rule should be taught inductively rather than deductively, and should be developed in connection with the words for which it applies. (b) Only one rule should be introduced at a time. (c) In teaching a rule, it is important to emphasize both the positive and negative aspects. (d) When the rule has been taught it should be systematically reviewed and applied.

Relation between Phonics and spelling

Most of the early research on phonics, dealt with phonics in relation to reading. Recently there has been a growing interest in the possibility that instruction in sound-to-letter relationships may contribute to spelling ability. Some evidence suggest that some amount of phonic instruction may be of substantial benefit to spelling. But in this connection some points should be taken into consideration. They are — (a) There are marked differences in speech in different regions. There are also differences between formal and informal cultivated speech. (b) Most sounds are spelt in many ways. (c) Many words pronounced contain silent letters; many words contain double letters, although only one letter may be pronounced.

Diagnostic and Remedial work

Immediate and systematic attention should be given to children whose spelling achievement is low. Unsatisfactory achievement may be attributed

either to the poor quality of educational experience or physical disabilities such as defective vision or short of hearing. Low spelling achievement is also due to faulty training in spelling and in other language skills, such as reading, pronunciation, hand writing and phonetic analysis.

One of the most common causes of low spelling accomplishment is poor study habits. Writing slowly or illegibly and inadequacies in instruction in written composition are likely to be reflected in lowered achievement in spelling. Faulty speech habits are also important in poor spelling. Lack of interest or the presence of undesirable attitude affects acquirement of correct learning of spelling.

A large number of investigations have dealt directly with the influence of specialised abilities or disabilities upon spelling ability certain visual abilities and disabilities have been shown to be significantly related to spelling achievements. Visual perception, visual discrimination and visual memory have been found to be highly related to spelling ability. There is considerable evidence on eye movements in learning to spell. Good spellers have fewer regressions, shorter time fixations, more regular fixations, more effective methods of analysis. Sound perceptions and discriminations are significantly related to spelling ability.

Positive correlations have been reported between intelligence and spelling and children of low intelligence are very likely to be inferior in spelling ability. On the other hand, high intelligence does not guarantee superior spelling ability.

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A STUDY ON THE RELATIONSHIP BETWEEN ADJUSTMENT AND PERSONALITY CHARACTERISTICS OF HIGHER SECONDARY SCHOOL STUDENTS

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ABSTRACT

The study aimed at investigating the relationship between adjustment and personality characteristics of Higher Secondary School students. The sample included for the investigation was 300 students of whom 150 were boys and 150 were girls. The conclusion drawn was that Higher Secondary Female students were found to be more neurotic than Male students of the same standard. Adjustment was found to be negatively correlated with neuroticism and extraversion traits of personality as revealed in the investigation. No sex differences were found with regard to extraversion.

Many investigations have been worked out in recent years towards finding the relationship between personality traits and the various measures of adjustment. Studies conducted by Janus (1967), Brombley (1968) and Graff (1968) are worth mentioning in this respect. In a study Johnson (1970) found out that from the point of view of emotional adjustment and maturity the low achievers were inferior to the average achievers. Iry (1970) studied the relationship between school adjustment of first grade students and personality factors like self concept; body image; level of achievement motivation and reaction to frustration. The findings revealed that there was marked positive correlation between School adjustment and personality factors in respect of pupils who were well accomplished in academic achievement.

India too is not lagging behind in investigations in this very domain. Tewari and Tewari (1968) in their study concluded that super-ego, ego-strength and autonomy were found to be stronger in the highly adjusted students, while the highly maladjusted students revealed more extra-punitiveness, high impulsiveness and mother fixation. In another investigation Gupta and Singal (1971) showed that sex and intelligence had no effect on personality adjustment, and there is difference in variability on the basis of sex and intelligence. Singh (1976) in his study explored that adjustment was found to be negatively correlated with measures of neuroticism and extraversion traits of personality.

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The review of the above investigations led to determining the objective of the present study which entails the relationships that exist between adjustment and personality characteristics of the higher secondary school students. Thus the present work was designed to (i) find out the differences in neuroticism, extraversion and adjustment in relation to sex, (ii) ascertain the different aspects of adjustment in relation to sex and (iii) investigate the relationships of neuroticism and extraversion with adjustment. With the design in view the hypotheses framed for the present study are (i) there would be no sex differences with respect to neuroticism, extraversion and adjustment of the school students, (ii) there would be a negative correlation between adjustment and neuroticism and (iii) there would be a positive correlation between adjustment and extraversion.

METHOD

Sample

In the present study 300 students (150 boys and 150 girls) belonging to two Boys' and two Girls' Higher Secondary Schools in Calcutta were selected by the process of random sampling technique. The mean age for boys was 18 years and that of girls was 17 years 6 months.

Tools Used

1. Eysenck's Madusley Parsonality Inventory : For measurement of neuroticism—extraversion traits of personality, EMPI developed in Hindi by Jalota and Kapoor was used after getting it translated into Bengali. It is a modification and adaptation of the work of Eysenck (1964). The split-half reliability coefficients for each of the two personality dimensions in the Inventory were estimated to be 0.86 and 0.79 respectively.

2. Adjustment Inventory for school students : This Inventory developed by Sinha and Sinha (1968) in Hindi language was used in this study after getting it translated into Bengali. It measures adjustment of school students in three areas—emotional, social and educational. It consists of 60 yes/no type items. The split-half reliability coefficient for this Inventory is 0.86.

RESULTS AND DISCUSSION

The means, the standard deviations and t-ratios were calculated in respect of Neuroticism, Extraversion and Adjustment scores in order to find out the significant differences of means of the scores of male and female Ss. They are presented in Table 1.

Table I

Means, SDs and t-ratios of scores on Neuroticism,
Extraversion and Adjustment for Male and Female Ss

	Neuroticism			Extraversion			Adjustment		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
N	150	150	300	150	150	300	150	150	300
M	15.46	16.65	17.24	15.56	15.71	15.67	41.24	46.35	44.26
SD	5.44	5.46	7.14	4.76	4.62	4.51	12.70	14.41	16.22
SE	0.55	0.56	0.44	0.38	0.46	0.41	1.76	1.78	1.62
dm		0.69			0.51			2.46	
t-ratios		4.05*			0.43			1.43	

*Significant at 0.01 level

Analysis of the data as revealed in Table I on the basis of the null-hypothesis indicated that no sex difference was observed on neuroticism, extraversion and adjustment scores of the school students. It was proved true in the case of extraversion and adjustment; but so far as neuroticism was concerned, null hypothesis was rejected; as the difference in the mean scores of male and female Ss was found out to be statistically significant ($t = 4.05$; $P < 0.01$). It is clear from Table I that the mean score of neuroticism was higher in the case of female Ss (16.65) as compared to the male Ss (15.46), which showed that the female Ss were more neurotic than the male Ss. This finding supports the investigation of Eysenck (1960) that increment in neuroticism is well marked among the girls after the age of seven, whereas boys start decreasing neuroticism after the age of 11 years. The Ss of this study, who were the XII grade students were all above the age of 15 years. The results of this study also confirmed the findings of Thakur (1972) that the girls scored more on neuroticism than boys thus indicating sex deviation in this variable. Dhaliwal (1973) also found that the low achieving girls were more neurotic than the low achieving boys.

In the case of extraversion, the findings of this study accepted the null-hypothesis indicating no sex difference, as the difference in mean scores on extraversion between male and female Ss was found statistically insignificant ($t = 0.43$). There was no reason to believe that male and female Ss could differ with respect to this variable. Of course, there was a very slight difference in the mean scores of male and female Ss on extraversion, as female Ss (15.71) were scoring a slightly higher mean score than male Ss (15.56). It may also be pointed out that since neuroticism and extraversion are considered to be mutually orthogonal and independent of each other, the difference in neuroticism

between sexes does not imply a similar difference in extraversion. But Allport et al (1951) found that females were more introvert and males were more extravert. They found introversion-extraversion as one of the largest of the trait differences between the sexes. Females were more inner-oriented in their thinking and more artistic. Males were more object-oriented and more utilitarian.

With regard to adjustment, the findings of the present study supported the prediction of no sex difference. The t-ratio calculated to find out the difference in mean adjustment scores between the male and female Ss was found to be equal to 1.43 which was statistically insignificant, although the difference in adjustment was found to be in favour of the female Ss indicating that female Ss had better adjustment than the male Ss. Gupta and Singal (1971) had found no relationship between sex and adjustment.

In the present study an attempt was also made to investigate sex differences with respect to the five different aspects of adjustment. Hence the means, SDs, and t-ratios of scores of all these five aspects (A, S, G, T, P) were found out for male and female Ss which are presented in Table 2.

Table 2

Means, SDs and t-ratios of scores on five aspects of adjustment
for Male and Female Ss

Aspects of adjustment	Male Ss		Female Ss		t-values
	Mean	SD	Mean	SD	
A	22.51	5.46	24.75	4.62	0.23
S	22.26	5.26	23.76	3.73	0.72
G	15.12	5.85	18.21	3.80	3.10*
T	27.13	7.46	29.17	5.51	1.08
P	22.54	5.21	23.74	4.07	0.18

* $p < 0.01$

From table 2 it is quite obvious that the only difference between male and female Ss which was found to be statistically significant was with reference to 'G' aspect of adjustment ($t = 3.10$, $p < 0.01$). This difference with respect to 'G' aspect of adjustment was found to be in favour of female Ss. This result indicates that XII grade female students are more satisfied with school administration and general environmental facilities and comforts at school. They feel more interested and participate in co-curricular activities than male Ss. One reason for these phenomena may be due to the fact that male students in the XII grade are getting overconcerned and anxious regarding their future careers and admission into institutions of higher educa-

tion. This anxiety of the male Ss causes them to feel dissatisfied with the general school environment and lack of attachment with the school. It is interesting to note that the female Ss showed better adjustment than male Ss in all other aspects of adjustment, although the differences were found to be statistically insignificant.

Table 3 depicts correlation coefficients between adjustment scores with neuroticism and extraversion with reference to sex.

Table 3

Correlation coefficients between adjustment and neuroticism as well as adjustment and extraversion.

Variables	Correlation coefficients		
	Male	Female	Total
Adjustment & neuroticism	-0.15	-0.42*	-0.19**
Adjustment & Extraversion	-0.08	-0.28	-0.15**

* $p < 0.01$

** $p < 0.05$

From the finding as shown in table 3 it reveals that negative relationships exist between adjustment and neuroticism as well as adjustment and extraversion. As predicted, the present study explored a negative correlation between adjustment and neuroticism ($r = -0.19$, $p < 0.05$), the corresponding coefficients of correlation for male and female Ss were also found to be in the negative direction, although the correlation between neuroticism and adjustment for male Ss did not reach any expected level of significance ($= -0.15$). In the case of female Ss the correlation between adjustment and neuroticism was found to be statistically significant ($r = -0.42$, $p < 0.01$). These results indicate that neurotic Ss have poor adjustment.

The findings of the present study contradicted the prediction that there would be a positive correlation between adjustment and extraversion. At every analysis of factors with respect to extraversion have yielded a factor which has been identified with some aspect of adjustment, so it is logical to expect a relationship between extraversion and adjustment. The reason for predicting a positive relationship between the two was since the extraverts are more social and come in contact with more people, they have more chances of being well adjusted. In the present study, the correlation between extraversion and adjustment was found to be equal to -0.15 which is statistically significant at 0.05 level. The correlation coefficient between adjustment and extraversion for male Ss was found to be very negatively low ($r = -0.08$).

The corresponding correlation coefficients ($r = -0.28$) for female Ss was found to be statistically significant at 0.01 level. These results are quite surprising.

CONCLUSION

The female XII grade students were found to be more neurotic than the male Ss of the same class. No significant difference was found between male and female students with respect to extraversion. With regard to adjustment of XII grade students, no significant sex difference was found, although female students were found to be slightly more adjusted in the present study. A significant sex difference was found with respect to 'G' aspect of adjustment in favour of the female Ss. Adjustment was found to be negatively correlated with measure of neuroticism and extraversion traits of personality.

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PRE-DETERMINISM IN EDUCATION

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ABSTRACT

The recent spate in reliance upon spiritual pre-determinism is a disquieting phenomenon which must particularly worry the natural or the social scientist. History of science and civilisation is one of a ceaseless struggle between objective materialism and subjective spiritualism....However, with the advance of objective materialism, the school of subjective idealism is on the retreat. As a last resort, it has invaded the field of human life and education in the form of pre-determinism.

Pre-determinism, however, so far as it exists, is objective in nature, determined by objective causation. There is only social or historical pre-determinism, an objective cause producing an objective effect. Our education should teach pupils to weed out the habits of reliance on the so called spiritual predeterminism.

There is a recent spate in fatalism and surrender to spiritualism caused by socio-economic crisis. This fatalism intruded into the field of education also in the form of pre-determinism of different varieties. But, fatalism and spiritual pre-determinism, whatever the variety, is contrary to science and whatever it stands for.

History of science is one of a ceaseless struggle of progress against ignorance and superstition. This explains why reactionary social classes persecuted progressive scientists, because they stood to lose by the dissemination of progressive scientific views. In ancient Greece, the works of Democritus, the founder of the atomic theory of matter were destroyed because this scientist rejected divine intervention in nature and human affairs. His disciple Epicurus, who was revered by the ancients for having liberated man from the fear of God and for asserting the validity of science, was, for two thousand years anathematised by the Church which unduly depicted him as an enemy of morality and disseminator of vice. The Alexandria Library, with 700000 works, was burnt by Christian monks in 391 AD. And Pope Gregory I (590-604 AD) destroyed many valuable works of ancient authors, particularly the materialist philosophers.

The Inquisition was recklessly used to suppress the forces of scientific intellect. In 1600 Giordano Bruno, who upheld the Copernican doctrine was burnt at the stake. In 1619, Lucilio Vanini's tongue was torn out, and then

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he was put to death. The Inquisition tried to force Galileo to renounce his view. Voltaire was imprisoned in the Bastille. Diderot was also sent to prison.

This tradition continues till date, although in a different fashion. There is every attempt made to prevent people from drawing materialist and atheist conclusions from scientific discoveries. Progressive thinkers are villified, ostracised and even dismissed from their offices. Every attempt is made to condition the people's minds for the acceptance of spiritual dogmas and for rejection of materialistic science. In fact, a titanic struggle is being waged throughout the world between scientific materialism and dogmatic spiritualism.

In general terms, materialism accepts primacy of matter and regards thoughts and spirit as a property of matter. Idealism accepts the primacy of spirit i.e. idea existed before nature and that nature is the creation of spirit and is dependent upon it.

There are, no doubt, examples where the line of demarcation is thin. Philosophical idealists, while interpreting their data, lend themselves to materialism. T. H. Huxley did not call himself a materialist, but in his studies in Zoology, Comparative Anatomy, Anthropology he upheld materialistic view, stating that philosophical idealism only led to confusion and ignorance. Albert Einstein was influenced by idealism in some of his philosophical conceptions, but in the realm of science his theory of relativity is materialistic in content. Max Planck, founder of quantum physics, although he did not call himself a materialist, recognises the existence of nature independent of the human mind.

Materialist philosophy has been an effective weapon against the pernicious influence of spiritual reaction. For centuries, the Church tried to instil contempt of earthly life and fear of God. It wanted the toiling masses to believe that their destiny was to toil and pray, and happiness was unattainable in this vale of tears. As against this, materialism helped man to break free of all superstitions. It taught man not to fear death, not to fear gods and other spiritual forces. It taught man not to hope for happiness beyond the grave, but to prize life on earth and strive to improve it. Faith must be placed in human intellect, in the power of knowledge, in man's ability to fathom all the secrets of the world around him.

Idealists often caluminate materialism as "an uncanny, a sinister, a nightmare view of life" as William James did. In fact, idealism is a philosophy of gloom that denies man's ability to acquire knowledge, and extols the cult of death. It, thereby, becomes a receptive soil for the most abhorrent manifestations of anti-humanism, racist theories and fascist obscurantism.

Materialism, on the other hand, gives a true picture of the world without any superfluous addition of spirit, God, Creator. It is an optimistic and life-asserting Philosophy.

The view of Francis Bacon that experiment is the basis of knowledge, and that knowledge is power, greatly stimulated the development of natural sciences.

Great contributions were made by Physics of Rene Descartes, the mechanistic theory of man advanced by Thomas Hobbes, and the mechanics of Isaac Newton. Their materialism came to be known as mechanical materialism. Its exponents in the 18th century were Toland, Priestly, Holbach, Helvetious, Diderot. They tried to reduce all processes to mechanical motion. They did not analyse the peculiarities of organic nature, and they failed to specify the laws of social life. Their theories led to the doctrine of immutable, unchangeable nature, eternally repeating the same cycle. The root of metaphysical doctrines lay here.

A step forward from metaphysical materialism was taken in early 19th century by Ludwig Fuerbach, Herzen, Belinsky etc. But they could not do full justice to the practical social life and activity. The next philosopher in line were Marx and Engels.

According to Marxian materialism, the concept "Matter" denotes everything that exists objectively i.e. independent of our mind and reflected in our sensation. Matters are not only the tiny particles, the atoms and corpuscles of which physical bodies are composed. Democritus and Epicurus had believed that the world consisted of atoms moving about in the Void, things were merely combinations of atoms. But modern physics has established that the atom is a complex structure. It has also been established that the atoms of one element can be converted into the atoms of another element by transformation of atomic nuclei. The phenomena of X-Rays refuted the old theory of indivisible atom. Many philosophers construed such transformation as "disappearance of matter". But modern physical theories have proved that positron and electron disappear to produce photons, although some physicists called it 'annihilation of matter'.

Scientific materialism holds that the infinitely diverse processes and phenomena are different states of matter, its different properties and manifestations. The conviction of the unity of the material world was formed and strengthened in course of the battle against the religious doctrine of dualism between Earth and Heaven, between spirit and body, between mind and matter as separate entities, and against the philosophical doctrine that the unity of the world lies in its being a product of mind or spirit.

Matter can move only in space and time. This was amply proved by Einstein's theory of Relativity. Immanuel Kant, however, had claimed that there was no such thing as objective space and time existing independent of our consciousness, "If there were no human consciousness, there would be no time and space". But man's ability to penetrate cosmic space has dealt a new blow to the doctrine of the subjective character of space and matter. The fact that the external world exists in space and time refutes the religious doctrine of a God existing outside of space and time. Theology asserts that God existed before there was a world, he created nature, but remains outside nature, in an

incomprehensible super-natural "somewhere". From there He determines the fate of man.

But conception of causality is the life-blood of science. Causeless phenomena do not and cannot exist. David Hume had declared that experience did not reveal the necessary connection of phenomena. He, therefore, held that the utmost we might say was that 'one phenomenon follows another, but cannot justifiably say that one phenomenon causes another'. Kant said that there could be no science unless the obligatory causal connection was recognised. But he also asserted that there was no such connection in "observable" phenomena. Through the gaps thus left in philosophical idealism enters the role of spiritualism.

The same applies to the question of determinism. The scientific concept of determinism consists in the recognition of the objective character of universal connection, the causative determination of phenomena. But there have been attempts to explain determinism as either mechanical determinism or spiritual determinism.

The same is the case in the conception of development. In the final analysis, God was the external source which imparted motion to matter, but was itself outside matter. Everything is thus, sought to be explained in terms of the intervention of the transcendental.

In the field of learning, idealism held that cognition was the fruit of human spirit's eternal urge for truth, and did not depend upon practice. Frederick Nietzsche said that genuine cognition of the world was totally impossible. Henri Bergson said that cognition was possible only through mystical intuition. Much earlier, Francis Bacon had said that mastery over nature was a most important purpose of science, but that mastery was contemplative, not based upon the importance of practice.

Such theories led to the ideology that genuine knowledge was the privilege of the few, and low practical activities and physical labour was the lot of the ignorant majority. David Hume said that only sense perceptions are within our reach. Hence the fundamental questions of philosophy must remain insoluble. Comte had said that mankind would never learn what the stars consisted of. Kant said that "things" were inaccessible to cognition. He had to give up knowledge in order to make room for faith. This explains Kant's journey from the "Critique of Pure Reason" to "Critique of Practical Reason". Such concepts lead to Agnosticism which is closely related to the doctrine — "ways of God are unfathomable". From here sprout mysticism, obscurantism, oracle and soothsaying.

When science, from day to day, has been fathoming the 'unfathomable', the enemies of progressive science have taken shelter in the last fortress i.e.

Pre-Determinism in human life in terms of spiritual pre-ordination. This explains the recent spate in fatalism, palmistry, spiritual foretellings. As a result, some people supposed to be endowed with spiritual powers are doing a brisk business.

The same has also invaded the field of education and pedagogy, sometimes in unveiled and sometimes in clandestine forms. Some of the philosophical protagonists of pre-determinism have been overdoing with mental measurement and similar other devices only to establish that educational possibilities are racially pre-determined and also individually pre-determined by one's innate endowment which again is determined by spiritual entities. Only a small section of the society consists of people with pre-determined genius who, therefore, enjoy endless possibilities of development, while the majority is pre-determined to take an educationally subservient position. This is a device to perpetuate class distinction in education in the name of ordination by spirit.

Determinism is there. But, it is only objective determinism where the elements which determine development exist in the material world. Such determinism is caused by causal connections. Causality exists in the actual condition of life.

This means that there is social determinism in education. Again, analysis of such causality in social (and obviously educational) development is History. There is, therefore, only material i.e. social or historical pre-determinism in education, and no spiritual pre-determinism. The earlier we may check the proliferation of fatalistic pre-determinism and weed out the practice of helpless surrender to the unseeable pre-determinant in education, the better for education, for society and for mankind.

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SOCIAL AND PSYCHOLOGICAL FACTORS INFLUENCING JUVENILE DELINQUENCY 1

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ABSTRACT

An attempt has been made to discuss some social as well as psychological factors influencing juvenile delinquency. Juvenile delinquency in Indian situation, according to the present authors, is primarily the product of poverty, unemployment, ignorance, inability on the part of the parent and families to help the child develop as a healthy individual of the society.

INTRODUCTION

Every human group no matter how cohesive, stable and well integrated, must somehow respond to such problems as mental illness, violence, theft, sexual misconduct, as well as to other similar difficult behaviour problems which are considered as deviant behaviours. These behaviours are defined as being a real or perceived threat to the basis "values" of the society.

Juvenile delinquent behaviour is one of the major form of deviant behaviours, which creates some hazards and problems in the society by doing some antisocial acts. For this reason, society establishes or imposes certain rules and regulations to tackle their deviant behaviour.

Delinquency, like all other antisocial behaviours, has complex roots. We have learned through a century of social science endeavours that simple explanations of human behaviour are usually inadequate. So to understand the dynamics of juvenile delinquency various psychological and social factors, responsible in developing delinquent behaviour, are to be studied.

But before describing the causative factors we should clear up the notion "who are Delinquent" ?

Attempts to define "Delinquency" have been made mainly from two aspects—social, which we may term the legal stand-point and the other clinical, constituting the entire personality of the individual. Since the legal code varies from country to country so also the definitions differ to some degree.

According to the International Juvenile Penal Code Act, 1965, the legal definition of delinquency refers to those youngsters of below 20 years, who must have violated a statute of governmental jurisdiction. The violation of jurisdiction involves — murder, aggravated assault, forcible rape, robbery, burglary, theft, auto theft etc.

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According to West Bengal Children Act XXX of 1959, "Juvenile Delinquency means a child of below 18 yrs., who has been found to commit an offences", which includes —assaults, murder, crime of wounding, robbery, sexual offence, rape, theft etc.

Aside from these two above mentioned legal definitions, there are some psycho-social definitions of delinquency. According to Uday Sankar (1958) "Delinquency is a rebellion and an expression of aggression which is aimed at destroying, breaking down, or changing environment this rebellion is most against the social condition which deny the individual his basic rights and satisfaction of his fundamental needs".

There are so many definitions of juvenile delinquency, but since we are not interested in defining the term, we shall sum up all these definitions to give a comprehensive definition of juvenile delinquency. Delinquent child is those who (a) violates a state law or local ordinance (offences, which if committed by an adult, are punishable by death or life imprisonment except a boy of 18 years of age); (b) is wayward, incorrigible, or habitually truant and disobedient; (c) associates with thieves, criminals, prostitutes, vagrants or vicious persons; (d) knowingly visits a pool-room, billiard room or gambling place; (e) wanders about rail-road yards, jumps on moving trains, or enters any car or engine without authority; (f) habitually uses or write vile, indescant or obscene language; (g) absents himself from home without just cause or without consent of parent or guardian; (h) is immoral or indescant.

When viewed symptomatically, all the delinquent behaviours, whatever specific form it may take, have the common denominator of maladaptation of the individual to the demands of social code, and to prevent this delinquent behaviour it becomes more important to find out both the precipitating and predisposing causes, which help to grow up a child as "Juvenile Delinquent".

Regarding the causation of delinquency various theories have been developed and these are accepted by the criminologists, sociologists, and psychologists. From the various research findings, it has been observed, that the malfunctioning of some social and psychological factors are responsible for the development of delinquent behaviour.

SOCIAL FACTORS

Family : It will probably be no exaggeration to say that delinquent's family is one of the main causes of delinquency. The family is the black drop in which the child learns to deal with his own emotions and drives, and handle his problems in a socially acceptable manner. When the family does not help the youngsters to adjust to his environment, he loses the most important means of psychological support and the most effective agent for socialization and develop delinquent behaviour (Bowlby, 1946; Andry, 1957; Berman, 1964; Aichhorn, 1969; Power *et al*, 1974; Slocum *et al* 1965).

Poverty : Various researches have been done by several investigators concerning the role of economic position in the causation of juvenile delinquency. Most of them showed that delinquent child mainly comes from lower socio-economic status (Burt, 1923 ; Sheldon and Glueck, 1950 ; Sheth, 1963 ; Farrington *et al* 1971 ; Garrett *et al*, 1975 ; Krans, 1975 ; Kaldate, 1978 ; Sodhi, 1979). Sometimes the child comes from slightly higher income status but in such cases it was found that the parents spent part of their income for personal purpose, thereby depriving their families of essential resources. The effect of financial deprivation on the children of both groups (slightly higher income group and lower income group) is the same. There is not enough money of the family to feed and clothe the children adequately and to meet other needs. Their homes are inadequately furnished. When there is illness in the families no proper provisions for nursing the patient are made. A child shares a bed with three or more sibs. Sometimes the same bed is shared by the parents also. Moreover this bed is not at all comfortable since it is made up of one rag and old coat rather than blanket (Burt, 1952 ; Sukla 1977 ; Pathak, 1963 ; Krans, 1975 ; Dosajh, 1956). The provision for food is inadequate and irregular. In such a family the child is unable to satisfy his basic needs and desires and release energy in a way which is not accepted by the society and becomes a delinquent child.

Parental Behaviour : Weak relation with the parents also facilitates in the formation of juvenile delinquency. Various researches showed that emotional insecurity experienced by the children in the relationship with their parents, primarily with their mother, is a fruitful cause of delinquency. It is evident that the mother is not always and as a matter certainly available to the child, when the child needs her. Such unavailability may be due to a variety of reasons. One of them may be found in the character of mother ; the woman who cannot form a close relation with her children (Bowlby, 1949 ; Cass, 1952). It may be due to the emotional immaturity of the parents. The mother may be so preoccupied with her own emotional problems that she is not able to meet the needs of her children. Consequently, the child lacks parental affection (Andry, 1957 ; Glueck, 1956 ; Bruce, 1970 ; Sarwatara, 1976). Parents appear to take no interest in the children's affairs and sometimes they actually reject and neglect them (Paterson *et al*, 1965 ; Singh, 1967 ; Misra, 1977 ; Williamson, 1972 ; Farrington *et al*, 1971 ; Lye, 1976). Sometimes in delinquent families there is a lack of guidance, or coherence in handling the children. This may be due to parent's lack of interest in them (Glueck, 1956 ; Singh, 1967). The father of delinquent child does not appear clearly as effective leader of the family and is not interested about the child's matter (Case, 1952 ; Andry, 1957). Mother of delinquent child suffers from mental derangement and possesses neurotic personality (Burt, 1952 ; Krans, 1975 ; Kondel-Kova, 1975).

Broken homes : Again loss of love, affection, acceptance, and security from the parents due to broken home create both defective psychological as well as inter-personal relation with the parents and society. These broken homes are of different forms such as—(a) parents are separated and/or divorced (Burt, 1952 ; Dosajh, 1956 ; Sukla, 1977 ; Sodhi 1979), (b) father's frequent desertion from home (Williamson, 1972 ; Austin, 1978), (c) parental death (Power *et al*, 1978 ; Sodhi, 1979), (d) Mother working out (Krans 1975 ; Dosajh, 1956), (e) Unemployment (Burt, 1952 ; Krans, 1975 Kaldate, 1978 ; Sodhi, 1979,, (f) defective parental discipline—neglected moral training, inconsistent training or harsh discipline in the home (Williamson, 1972 ; Farrington *et al*, 1971 ; Lye, 1976), (g) low parental education (Sheth, 1963 ; Krans, 1975 ; Sukla, 1977), (e) Alcoholic parent (Bleular, 1956 ; Krans, 1975 ; Schuckit, 1978, (i) Parents inprison and cruelty (Burt, 1952 ; Reakers, 1953), (j) Oversoliticious (Dosajh, 1956).

Other factors : Aside from the above mentioned factors, bad companionship or delinquent gang (Burt, 1952 ; Dosajh, 1956), excessive facilities for amusement such as cinema, betting or gambling (Sheldon and Glueck, 1960 ; Burt, 1952), lack of wholesome leisure time activity (Burt, 1952 ; Healy *et al*, 1936) and many similar factors play vital role in creating delinquency.

PSYCHOLOGICAL FACTORS

Although widespread disagreement exists about the functioning of organic and environmental factors in the lives of delinquents, but there is considerable unanimity on the part of most investigators about the presence of emotionally disturbed states among delinquent offenders, particularly the persistent delinquent (Bloch *et al*, 1956). One of the basic assumption of psychiatry, psychology and criminology is that, mental illness has its root in early childhood experiences. Early family training and supervision of the parents as well as relation with parents are also considered important. It is felt that early deprivation is directly associated with later psychological disturbances and emotional problems. The greater the deprivation, the greater the emotional insecurity and the greater the chance for mental derangement. Although, it is believed that capacity of the individual to adjust or to face the conflict and frustrated situation created by different environmental agencies is not the same for individuals. It mainly depends upon the individual characteristics or personality pattern.

Numerous studies have been done by several investigators in this field. They showed from their various research findings that delinquents are socially assertive, aggressive, defiant, ambivalent to authority, more hostile (Berman, 1964 ; Jenkins *et al*, 1944 ; Lewis, 1954), adventurous, extrovert

in action, suggestible, stubborn, emotionally instable (Glueck, 1963), irritable, destructive (Bandura & Walters, 1959), vicious, ego centric, low ability to adjust himself, anxious, impulsive, have feeling of insecurity or isolation (Redl and Wineman, 1957) and Extraversive (Eysenck & Eysenck, 1971, Eysenck, 1974; Burges, 1972; Eisen, 1977; Fitch, 1962).

Moreover, various researchers reported that delinquent child possesses, low mental abilities or poor intellectual efficiencies (Burt, 1952; Woodward, 1955; Prentice, 1963; Pallegirine, 1968; Gavranovic *et al*, 1976; Gibson, 1970). Hence the individual is unable to foresee the probable consequences of his action.

CONCLUDING REMARKS

In the present paper we have briefly discussed about the importance of some social and psychological factors in the causation of juvenile delinquency. It is evident from our discussion that in a developing country like India juvenile delinquency is a product of poverty, unemployment, ignorance, and inability on the part of the parents and families to help them develop as a healthy individual of the society (Kaldate, 1978). According to Kaldate (1978), "Slum-development, reduction in poverty and unemployment and raising the morale of the families and agencies to deal with children are some of the badly needed solutions to the overgrowing problem of juvenile delinquency in developing countries". Moreover, to deal with the problem of increasing juvenile delinquency, greater care is needed for proper educational, vocational and manual training of the delinquent children so that they can overcome their deficiencies in socialization and satisfy their needs and develop healthy attitude towards the society.

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A NEW METHOD FOR THE COMPUTATION OF AVERAGE DEVIATION FROM A FREQUENCY DISTRIBUTION

SAILENDRA KUMAR GHOSH*

ABSTRACT

The study evolves a new technique on Average Deviation claiming minimum computational labour in comparison with the traditional technique. An illustration is also cited here. —EDITOR

CURRENT METHOD

Average deviation is at present computed by the application of the formula

$$AD = \frac{\sum |fx|}{N}$$

where,

Σ = "the sum of"

f = the frequency in a class interval.

x = the deviation of a score X (mid-point of a class-interval) from the mean M of the distribution.

$|fx|$ = absolute value of the product of f and x for any class-interval.

N = total number of scores.

Though the formula appears to be very simple, the calculations involved in the procedure are tedious, lengthy and tiresome. This is one of the reasons why the use of AD in modern statistics is becoming rare. It is expected that ease in the computation of its value will make it useful in statistical studies for the new method suggested.

In these pages I propose to offer a new method involving easy calculations in the computation of AD. The formula, though a bit lengthy, admits of much simple and easy calculations. It runs as follows :

$$AD = i \times \frac{\Sigma |fx'| + |f_0c| + (F_b - F_a)c}{N}$$

where,

i = length of class-interval

Σ = "the sum of"

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f = frequency in a class-interval

x' = deviation of a score x (mid-point of class-interval) from 'assumed mean' AM in interval unit

$|fx'|$ = absolute value of the product of f and x' for a class-interval,

f_0 = frequency in the class-interval which contains AM.

$$c = \frac{\sum fx'}{N}$$

$|f_0 c|$ = absolute value of the product of f_0 and c

F_a = Sum of the frequencies above the class-interval containing AM

F_b = Sum of the frequencies below the class-interval containing AM

N = total number of scores

A caution should be exercised before using the formula. Whereas in the computation of M and SD by the new method the AM can be chosen arbitrarily, in using the above-mentioned formula for computing AD, AM must be kept within one class-interval of either side of M . This condition demands that $|c|$ must be less than or at most equal to 1.

In computing M and SD by the new method, we generally locate the AM at the mid-point of the modal class or preferably at the mid-point of the class-interval which contains the median in order that the value of c may be small. The choice of AM at any other point does not disturb the value of M and SD . But in the case of computing AD by the new method, the location of AM is restricted to remain within \pm one class-interval of M . In general, if the mid-point of the class-interval containing the median is taken as the AM, c lies between -1 and $+1$ (since median is rarely more than \pm one class-interval of mean). But, if as a special case, $|c|$ is found to be greater than 1, we can at once locate the class-interval which contains the mean and take the AM at the mid-point of that class-interval for computation of AD.

The advantage of the new method will be obvious from the example worked out in the two tables given hereinafter—in the first table AD has been computed by the current long method and in the second table, the new method has been employed.

Table 1

Scores achieved by 200 adults on a cancellation test

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intervals (Scores)	Mid-point x	f	x'	fx'	x	$f(x)$
136—139	137.5	3	5	15	18.06	54.18
132—135	133.5	5	4	20	14.06	70.30
128—131	129.5	16	3	48	10.06	160.26

(1) Intervals (Scores)	(2) Mid-point x	(3) f	(4) x'	(5) fx'	(6) x	(7) f(x)
124—127	125.5	23	2	46	6.06	139.38
120—123	121.5	52	1	52(181)	2.06	107.12
116—119	117.5	49	0	0	— 1.94	— 95.06
112—115	113.5	27	—1	—27	— 5.94	—160.38
108—111	109.5	18	—2	—36	— 9.94	—178.92
104—107	105.5	7	—3	—21(—84)	—13.94	— 97.58
		N=200	$\Sigma fx' = 97$		$\Sigma fx = 1063.88$	

$$C = \frac{97}{200} ; Ci = \frac{97}{200} \times 4 = 1.94$$

$$AM = 117.5$$

$$Ci = 1.94$$

$$M = 119.44$$

$$AD = \frac{\Sigma |fx|}{N} = \frac{1063.88}{200} = 5.32$$

Table 2

Scores achieved by 200 adults on a cancellation test

(1) Intervals (Scores)	(2) AM	(3) f	(4) x'	(5) fx'
136—139		3	5	15
132—135		5	4	20
128—131		16	3	48
124—127		23	2	46
120—123		$52F_a = 99$	1	50 (181)
116—119	117.5	$49 = f_o$	0	0
112—115		$27F_b = 52$	—1	—27
108—111		18	—2	—36
104—107		7	—3	—21(—84)
		N=200	$\Sigma fx' = 181 - 84 = 97$	

$$\Sigma |fx'| = 181 + 84 = 265$$

$$C = \frac{\Sigma fx'}{N} = \frac{97}{200}$$

$$AD = i \frac{\Sigma |fx'| + |f_o c| + (F_b - F_a)c}{N}$$

$$\begin{aligned}
 &= 4 \times \frac{265 + 49c + (52 - 99)c}{200} \quad (c \text{ being positive}) \\
 &= 2 \times \frac{265 + 2 \times \frac{97}{200}}{100} = \frac{2 \times 265.97}{100} = 5.3194 = 5.32.
 \end{aligned}$$

EXPLANATION

From column (3) we find that the medium is located in the class-interval (116—119). Hence AM has been taken as 1117.5, the mid-point of the interval. Again, in the interval (116 — 119) the frequency is 49, which is therefore f_0 . The sum of the frequencies below $f_0 = F_b = 52$ and the sum of the frequencies above $f_0 = F_a = 99$. Columns (4) and (5), have been worked out as are done in the case of finding M . At the bottom of column (5) $\Sigma fx'$ and $\Sigma |fx'|$ have been calculated. c being < 1 , the formula is applicable.

It may be observed that, as M is above AM, c could have $-\frac{180}{200} (= \frac{97}{200} - 1)$ if instead of 117.5, 121.5 were taken as AM. In that case also $|c| < 1$, and formula applies.

Let us now see how the formula works when $|c| > 1$, due to a wrong choice of AM. Suppose, we had chosen 125.5, mid-point of the class-interval (124 — 127) as AM. Then c would be worked out as $-\frac{180}{200}$ so that $|c| > 1$. In such a case, the formula does not apply directly, but we can go down one step below at 121.5 or two steps below at 117.5 to choose a new (second) AM so as to make $|c| < 1$ and proceed with the remaining steps in order to apply the formula to find AD.

This method makes the computation of AD so easy that it can be profitably employed to find an approximate value of SD also, when the distribution is fairly normal; because in a normal distribution $SD = 1.25 AD$. Thus the SD of that distribution in question $= 1.25 \times 5.32 = 6.55$, which is very close to the computed SD 6.68.

A FORMAL PROOF OF THE FORMULA

By definition $x = X - M = X - AM - ci = i(x' - c)$

$$\therefore fx = i(fx' - fc) \quad (1)$$

We shall consider the three cases namely (I) $C = 0$, (II) $0 < |C| \leq 1$, and (III) $|C| > 1$ separately.

Case I $C=O$.

$$AD = \frac{\sum |fx|}{N} = i \frac{\sum |fx'|}{N} \text{ from (1)} \quad (\alpha)$$

Case II $0 < |C| \leq |$

We introduce the following additional notations :

x_a = deviation of a score x above AM from M

x_b = deviation of a score x below AM from M

x_o = deviation of AM from $M=ci$

x'_a = deviation of a score x above AM from AM in interval unit

x'_b = deviation of a score x below AM from AM in interval unit

$$\begin{aligned} \text{Then } \sum |fx| &= \sum |f_a x_a| + |f_o x_o| + \sum |f_b x_b| \\ &= \sum |f_a x_a| + i |f_o c| + \sum |f_b x_b| \end{aligned} \quad (2)$$

$$\text{and } \sum |fx'| = \sum |f_a x'_a| + \sum |f_b x'_b| \quad (3)$$

Now from (1) $f_a x_a = i (f_a x'_a - f_a c)$

$$\begin{aligned} \therefore \sum |f_a x_a| &= i [\sum |f_a x'_a| - \sum f_a c] \quad (x_a \text{ and } x'_a \text{ being both positive and } x'_a > c) \\ &= i [\sum |f_a x'_a| - F_a c] \end{aligned} \quad (4)$$

Again from (1) $f_b x_b = i (f_b x'_b - f_b c)$

$$\begin{aligned} \therefore \sum |f_b x_b| &= i [\sum |f_b x'_b| + \sum f_b c] \quad (x_b \text{ and } x'_b \text{ being both negative and } |x'_b| > c) \\ &= i [\sum |f_b x'_b| + F_b c] \end{aligned} \quad (5)$$

Hence from (2), (4) and (5)

$$\begin{aligned} \sum |fx| &= i [\sum |f_a x'_a| + \sum |f_b x'_b| + |f_o c| + (F_b - F_a) c] \\ &= i [\sum |fx'| + |f_o c| + (F_b - F_a) c] \text{ from (2)} \end{aligned}$$

$$\therefore AD = \frac{\sum |fx|}{N} = i \frac{\sum |fx'| + |f_o c| + (F_b - F_a) c}{N} \quad (\beta)$$

Again (β) reduces to (α) where $c=0$.

$$\text{Hence } AD = i \frac{\sum |fx'| + |f_o c| + (F_b - F_a) c}{N} \quad (\gamma)$$

Where $0 \leq |c| \leq |$

Case III $|c| > |$

When $|c| > |$, there exists at least one X (mid-point of class-interval) in between M and AM and hence the relation (2) does not hold and therefore the formula fails. But we can locate the class-interval containing the mean by the formula $M = AM + ci$. Locating the mean thus, we can choose a second

AM at the mid-point of the class-interval containing the mean and apply the formula. More precisely speaking, if the numerical value of c be of the form $(p + \frac{q}{r})$, where p , q and r ($q < r$) are all positive integers, the 2nd AM will be located p steps above or p steps below the first AM according as c is positive or negative.

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SOME MAXIMS ON EDUCATION

- Education is not the amount of information that is put into your brain and runs riot there undigested all your life. We must have life-building, man-making, character-making, assimilation of ideas. The end of all education, all training, should, therefore, be man-making. The end and aim of all training is to make the man grow.

—Swami Vivekananda

- The highest education is that which does not merely give us information but makes our life in harmony with all existence.

—Rabindranath Tagore

- By education I mean all-round drawing out of the best in child and man—body, mind and spirit. Literacy is not the end of education nor even the beginning. It is only one of the means whereby man and woman can be educated. Literacy in itself is no education.

—Mahatma Gandhi

- The business of both parent and teacher is to enable and to help the child to educate himself, to develop his own intellectual, mental, aesthetic and practical capacities and to grow freely as an organic being, not to be kneaded and pressured in to form like an inert plastic material.

—Sri Aurobindo

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C O N T E N T S

	Page
Manpower Planning in India —P. K. Bose	1
Innovations in education—The Colonial Historical context —Sureshchandra Shukla	15
Teacher training : Traditional and developmental learning- teaching and field dependence-independence styles —Amiya Kumar Basu	23
An investigation of the relationship between creativity, personality and vocational interest of 12th grade students of a Delhi school —N. K. Chadha & Arun K. Sen	31
A study of Interest and Ability of the secondary school students in Science —B. B. Senapati & G. B. Kapat	39
A study of relationship between adjustment and perceived parental behaviour among the male and female college students —T. K. Chatterjee & V. Shah	45
Psychology and Pedagogy of handwriting —Bhujanga Bhuson Bhattacharyya	51

MANPOWER PLANNING IN INDIA

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ABSTRACT

In this paper a tentative method for estimating the manpower demands on the basis of the projected employment has been discussed. From sectorial allocations and the expected gross domestic products two structural relationships could be obtained, subsequently from such equations employment elasticity coefficients for each sector could be derived. Finally from the predicted occupational needs, training needs could be found.

It is hoped that by pursuing this technique scientific and technical manpower directive planning for the nineties may be attempted.

INTRODUCTION

In Socialist Countries the national economic plan sets physical targets of production for all the country's industries, agriculture as well as for all the other sectors of economy. Obviously, these targets can not be set arbitrarily. They must be set in accordance with the objectives and priorities set by the Government.

In India, planning is in the nature of indicative planning as opposed to direct planning in socialist economics. The Government through its five year plans indicates the sectors which are earmarked for special attention.

In socialist countries the procedure of plan-making starts with general directives prepared by the State Planning Commission. These directives give a tentative outline of the basic tasks of the new plan. These directives are made known to all ministries. On the basis of these directives each ministry prepares more detailed directives for each branch of the national economy subject to it. The ministries transmit their directives to the various industries under them, which in turn pass them on to the enterprises. On the basis of these directives each enterprise prepares its own plan.

In India private sector operates on capitalist lines, producing for market for maximum profit, where the public sector investments are based on the objectives and priorities of the government. In the latter sector, planning plays a crucial role in the allocation of resources to the various branches of the economy. In a limited sense, government policies also influence private sector investments, through fiscal and monetary mechanisms at its command.

The word manpower planning involves constant interchange of knowledge and experience, special investigation into actual utilisation of human resources

and a feedback from the employing agencies. The education programme for the training of Sand T personnel should be drawn up keeping in view the manpower forecasts. Unfortunately in our country we do not possess such a planning mechanism whereas in the socialist countries various ministries forecast their manpower requirements, on the basis of which education programme is framed.

As a result of the absence of any planning mechanism at the graduate level in India the out-turn in science has grown 12 times between 1950 and 1980, compared to 10 times in engineering, 9 times in medicine and only 4 times in agriculture. For every 100 graduates in pure science, the number qualifying in applied sciences was hardly 30 in India compared to 950 in Japan, about 250 in Canada, about 200 for Brazil, Italy and U.S.A., about 150 in France and about 100 in U.K. The volume of unemployment in 1978 among science graduates was 1.25 lakhs and among engineering diploma holders was 0.70 lakhs.

(A) *Training of Scientific and Technical Personnel*

As a result of co-ordinated and sustained efforts in encouraging and initiating with all possible speed programmes for the training of scientific and technical personnel, the out-turn of graduates and post-graduates had increased very rapidly during the two decades from 1950.

Table 1
Out-turn of S & T Personnel in India

Category	Degree	1950	1960	1970	1980 (Estimate)
Science	B.Sc.	9,628	22,693	83,610	113,000
	M.Sc.	1,425	5,382	16,578	20,000
	Ph.D.	100	361	1,212	20,000
Agriculture	B.Sc.	1,000	1,700	5,809	4,000
	M.Sc.	154	488	1,670	1,700
	Ph.D.	4	11	217	450
Eng. & Tech.	B.E./B.Tech.	2,198	5,703	17,768	21,000
	M.E./M.Tech.	55	606	1,972	2,600
	Ph.D.	10	18	98	350
Medicine	M.B.B.S.	1,557	3,387	9,582	14,000
	M.D.	88	397	1,266	2,500
		16,219	40,736	139,782	169,750

From a total out-turn of about 16,000 in Science, Agriculture, Engg. & Medicine in 1950, the out-turn had increased to over 40,700 by 1960 and about 140,000 by 1970. During the 50's there has been an increase of 150%.

During the 60's the increase was about 250%. After 1970, the increase has tapered off. During the 70's the increase in out-turn of graduates and post-graduates had increased by only about 30,000 compared to 100,000 during the previous decade.

At the graduate level, the out-turn in Science has grown 12 times between 1950 and 1980 compared to 10 times in Engg., 9 times in Medicine and only 4 times in Agriculture.

At the post-graduate level the out-turn has grown 14 times in Science between 1950 and 1980 compared to 11 times in Agriculture, about 28 times in Medicine and about 47 times in Engineering.

Post-graduate degree out-turn in 1980 is about 18% of the graduate out-turn in Science and Medicine and 12% in Engg. compared to 40% in Agriculture. Since there is substantial out-turn of post-graduate diploma holders in Medicine and Engineering, post-graduate out-turn in the applied fields as a percentage of the graduate out-turn would appear to be much higher in pure science.

Pure and the Applied Sciences

The ratio of out-turn in pure sciences to applied science including engineering, medicine and agriculture has undergone various changes. In 1950, graduates in pure science constituted nearly 2/3rds of the out-turn of the S. & T personnel at the First Degree level. It was still about 2/3rds in 1960; by 1970, the share of graduates in pure science had exceeded 70%. By 1980, the share is expected to rise even higher to about 75%.

A comparison of the out-turn of different categories of S & T personnel in India in the recent past with some of the leading countries is given below :

Table 2

Composition of the S & T out-turn at the first degree level

Country	Year	Pure Sciences	Applied Sciences			Total
			Agriculture	Engg.	Med. Sc.	
U S A	1974	73,254	18,943	46,852	68,118	133,913
India	1974	123,800	4,610	15,822	14,626	35,058
Japan	1975	9,504	11,757	65,422	12,898	90,077
Brazil	1974	13,922	2,923	11,699	14,541	29,163
Canada	1975	5,033	1,519	4,584	6,002	12,105
U. K.	1973	16,200	898	10,481	5,587	16,966
France	1972	13,102*		9,552	8,580	18,132**
Italy	1974	9,059	1,335	7,127	10,117	18,577

*Including agriculture

**excluding agriculture

The out-turn of graduates in pure sciences in India in 1974 was the highest in the world, 69% more than in USA. The Indian out-turn in pure science was more than 7 times the number in UK, about 10 times the number in France, and about 13 times the number in Japan. In the field of applied sciences including Agriculture, Engineering and Medical Science, Indian out-turn of graduates was significantly less than among the leading countries.

For example, in agriculture, the out-turn of graduates in India was only a fourth of the number in USA and about 2/5ths the number in Japan. In Engineering, Indian out-turn was less than 1/4ths the out-turn in Japan and about 1/3rd the out-turn in USA. In Medical Sciences, the out-turn in India was much less than 1/4th the number who qualified at the first degree level in USA.

For every 100 graduates in pure sciences, the number qualifying in applied science was hardly 30 in India compared to 950 in Japan, about 250 in Canada, about 200 for Brazil, Italy, and USA, about 150, in France and about 100 in UK.

The relative proportion between pure and applied sciences in India would appear to have been more the result of historical forces than of a deliberate policy. The colonial emphasis on liberal education does not appear to have disappeared.

The percentage of S & T personnel qualifying in applied areas in India has been disproportionately low. It is necessary that increasing emphasis is laid on applied aspects of science in our curricula at the graduate and post-graduate levels. Composite degrees in areas of national importance like Health Sciences and Rural Technology might be planned with special relevance to conditions in India.

The out-turn of diploma and certificate level personnel in engineering and technology has not grown at the same rate as that in graduate personnel. The out-turn of diploma holders in engineering had decreased from 23,183 in 1968 to 18,704 in 1975 and then increased to about 31,000 in 1979. The out-turn of certificate holders from ITIs increased only marginally from 52,761 in 1968 to 58,717 in 1977. The out-turn in 1974 was much higher and amounted to about 66,000. In the case of apprentices passing the trade tests, the number had increased from 6,200 in 1968 to 15,800 in 1979. The figure for the out-turn an year earlier was 33,000, more than double the out-turn in 1979.

The development of supporting personnel at the diploma and certificate levels has not kept pace with the growth of graduate and post-graduate personnel. The training of technicians in the emerging areas, including instrumentation, has to be speeded up to ensure adequate interaction between theoretical knowledge and practical skills. This is possible only if the salary levels of technicians are appropriately increased to attract talented persons to join the rank of technicians.

It is stated in many quarters that our standard of research in Science and Technology is rather low compared to developed Countries. But we should bear in mind that there is no compassion in basic sciences.

Whether a Country is poor or rich, the same amount of resources are required to do first rate science. The competition in this field is tough, the long term investment is high, and the risk is the highest for those countries with a relatively low level of industrial development. These factors constrain the scope of research that India may take.

(B) Strategy for development of statistics for employment & manpower.

In spite of our achievements primarily in the agricultural and industrial sectors of economy, however, progress towards a socialist transformation of society is hardly visible. Income distribution does not show less disparity than before, concentration of economic power has increased, the public sector industries have failed to occupy the commanding heights of the economy as desired. The agrarian structure does not give greater security to the tenants and share croppers and in fact in certain parts of the country agrarian economy is showing signs of emergence of a new class of society. The co-operative development in the agricultural sector is hardly visible.

The Mahalanobis Committee on Distribution of income in 1964 pointed out that when classified by monthly per capita income the top 10 p.c. of the population accounted for as much as 34 p.c. of pretax incomes the top 5 p.c. for 25 p.c. and the top 1 p.c. as much as 11 p.c. of income in 1955-56, while the bottom 25 p.c. of the population shared under 10 p.c. of the income. The Monopolies Inquiry Commission in its report in 1965 stated that the state should direct its policy towards securing *inter alia* that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment. Regarding agrarian situation Professor Charles Bettelheim of the University of Sorbonne who spent sometime in the Planning Commission said "if agriculture progresses at all, it is because the capitalist agriculture is making headway. The tenants in chief who form part of the upper class are the only ones who have gained".

As a result of the situation described above all our achievements have been overshadowed by the failure of achieved growth to reduce the unemployment problem. According to the planning commission in March 1978 unemployment should be 20.6 million person years. 16.5 million in the rural sector and 4.1 million in the urban sector.

Out of the total work force of 226.9 million; 167.3 million (or 74 percent of the total) were still engaged in agriculture, 22.4 million (10 percent) in mining and manufacturing and the rest 37.2 million (or 16 percent) in tertiary activities. In India rapid growth in the non-agricultural sectors in the last 25 years of planned development has failed to make any noticeable impact on the industrial distribution of workforce. Employment growth in non-agricul-

tural sector especially in industrial and mining sectors have been insufficient to absorb an increasing proportion of the labour force. Investment and output have grown at high rate but the production mix and the technology mix have been so capital intensive that employment did not grow. Between 1961-76 in the modern factory sector investment increased 139 percent and output 161 percent but the employment increased only 71 percent. The recorded employment in the organised sector shows that it can absorb about 11% of the current annual increase in labour force and remaining 89 percent (nearly 4.45 millions) are forced to hang on for some livelihood.

The Planning Commission has formulated an employment policy to meet this kind of situation. The three basic ingredients of the present strategy are (1) a policy to maintain the highest feasible rate of growth (2) a policy to make the pattern of production more labour intensive and (3) a policy to regulate technological change so that the rate of growth of employment is maintained at a satisfactory level.

In spite of more than two decades of development planning in India, unemployment and poverty continue to be chronic problems in the Indian Society. In India it is indeed difficult to estimate unemployment, because more than 70 percent of the labour force are nonwage earners i.e. self-employed in the rural sector. We know that there is tremendous amount of under-employment or disguised unemployment in rural areas. Even in the organised sector the extent of under-utilisation of the labour force is considerable. There are no reliable data for these sectors especially the unorganised sector. The estimates of unemployment on the basis of the 17th, 19th and 21st rounds of National Sample Survey are grossly underestimates. In the Draft Five Year Plan 1980-85 the Planning Commission had entertained some hopes to dispel the dark clouds of unemployment from the Indian horizon during the five year period. If the plans of investment and production are fully implemented, it is estimated that employment opportunities of approximately 49 million man years would be created and this can absorb the expansion in the labour force of 30 million in the period 1980 to 1985 as well as a substantial part of the backlog of unemployment.

The basic strategy of the Plan is to generate employment on a large scale. For dealing with the poverty of those who are occupied but poor, the strategy is to increase productivity of small enterprise in industry and agriculture. In areas where employment opportunities are expanded, the real wages of rural workers should be stabilised.

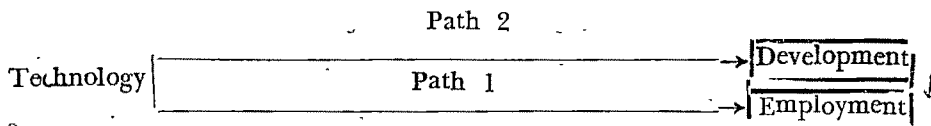
The most appropriate unit for employment planning, with emphasis on agricultural productivity would be the Development Block. The preparation of such plans will require an inventory of resources and skills and knowledge about the nature of unemployment in the area. The plans should identify projects and programmes for realising the development potential and cover the location of centres for the supply of economic and social services.

Unfortunately in our country we have a poor data base for furnishing these types of information. Immediately statistical compilation of an integrated resource inventory for the district and identification of the resources which are either unutilised or underutilised at present should be started. These represent potential breakthrough points for the improvement of rural employment. Available data on the biological, physical, ecological and other resources of the district; data on rural poverty, data on development and welfare programmes already in operation; educational and training facilities; medical and public health facilities; and credit and crop insurance and marketing facilities should all be put together and analysed.

In order to reduce unemployment, poverty and disparities of income, a block level planning based on the data is probably the only way.

The problem of unemployment has attracted national attention adequately during recent times and crash programmes on employment generation are being talked about in different quarters. Structural changes in the economy by shifting the emphasis from large scale capital intensive industries to labour intensive technologies for ensuring full employment have been advocated. But employment generation or full employment is not an end itself unless at the same time it helps in reducing poverty and increasing the national income. The generation of employment is intimately connected with industrial and economic growth where appropriate use of science and technology can play a very crucial role.

Let us consider the following diagram



For employment, two paths are available. Path 1 involves employing labour intensive technology with least capital intensity—that is with tiny capitals for increasing employment. This may result in the reduction of unemployment but will not minimise poverty. Employment has three dimensions—Production, Income and Recognition. Employment generation without a substantially marginal productivity would mean that the employment has no contribution in production aspect or in income aspect.

Employment generation through Path 2 means creation of jobs as a derivative of economic growth. Adoption of technology usually generates increased surplus leading to capital formation but does not necessarily lead to more employment generation.

In the Indian situation where unemployment and poverty are equally crucial problems, a well co-ordinated balance between two approaches is necessary. This means we should make appropriate choice and development of technology for optimal utilisation of available resources including human resources leading to a substantial economic growth.

In order to assess how employment generation per unit investment varies from industry to industry, some prima facie data relating to investment and employment for 12 industries in India is given in Table (2.1).

Table 2.1 : Investment in Various Industries with Employment Generation

No.	Industry	Date from total number of firms	Total Employment	Investment in machinery (in lakh)	Employment* coefficient
1.	Cement	7	7,675	3,676.34	2.1
2.	Automobile Tyres & Tubes	2	3,720	2,617.00	1.4
3.	Fertiliser	1	4,405	15,850.00	0.3
4.	Tractors	1	1,140	213.00	5.4
5.	Heavy Electrical Equipment	1	52,000	10,000.00	3.3
6.	Storage Batteries	1	1,610	264.00	6.1
7.	Machine Tools	All	45,000	11,000.00	4.1
8.	Commercial Vehicles	2	12,030	2,295.00	5.2
9.	Dry Cell	3	900	195.00	4.6
10.	Paper and Paper Board	1	3,500	6,000.00	0.6
11.	Agricultural Implements	All	2,000	400.00	5.0
12.	Electronics	3	4,640	44,180.00	9.5

*Employment coefficient means Employment per Rs. one lakh investment.

The table shows that the employment coefficient varies from 0.3 to 9.5. The range of variation will be much higher if all the different kinds of industries and different products in each industry are considered. Average employment coefficient in Electronics is as high as 10 which shows that it is labour intensive. Data on employment coefficient are extremely insufficient in our country. Even within an industry it depends on the technology used and also on the size of the establishment. Choice of appropriate technology for employment generation becomes particularly relevant. Our data base for taking such a decision is weak. In order to tackle the problem of employment in industries one of the new strategies should be to enlarge the scope of annual industrial census and to reclassify the industrial units or factories. There should be improvements in timeliness, content, coverage etc. of the monthly index of industrial production.

In India we have alternative estimates of unemployment. This is due to the fact that the estimation procedures depended on three aspects of employment-viz., (a) the income aspect, (b) the production aspect and (c) the recognition aspect. Employment adds to income, contributes to production and leads to recognition by the person and by others. According to income aspect, an adequate level of employment has been defined in terms of capacity to provide minimum living to the population. The identification of unemployment with

poverty draws attention to the close relation between the two but in many cases it is misleading. Therefore this definition is likely to give biased estimates of unemployment. It is better to call the people of low per capita income as poor rather than unemployed.

The wellknown concept of 'disguised employment' belongs to the category of production aspect. Under this approach the extent of surplus labour is estimated by calculating the number of working members who can be removed from the rural sector without affecting the output there. The measurement problems here are enormous which may give rise to underestimates.

The recognition aspect involves many conceptual problems. When a person offers himself in the job market and decides that he must look for something other than what he has got, the dissatisfaction with his employment status cannot be highly dismissed. To ignore a person's attempts to getting away from his situation on the grounds that he has already something is rather a mechanical approach to the problem of unemployment.

Recent survey of those registered in Employment Exchanges of West Bengal indicated that 50% of those registered were in fact unemployed in the N.S.S. sense. While it is true that most people may be willing to move to another job but this fact does not make them unemployed in any sense.

Chronic unemployment is, of course, a small part of the Indian unemployment problem as will evident from the above discussion. Therefore according to Planning Commission unemployed days rather than unemployed persons should be counted.

Basic statistical data about the unemployed days in the urban and rural areas are not available. Both census and National Sample Survey furnish data in terms of persons. Due to conceptual difficulties the estimates are varying to a great extent.

Estimated rural and urban employment according to status is shown in the diagram on page 10.

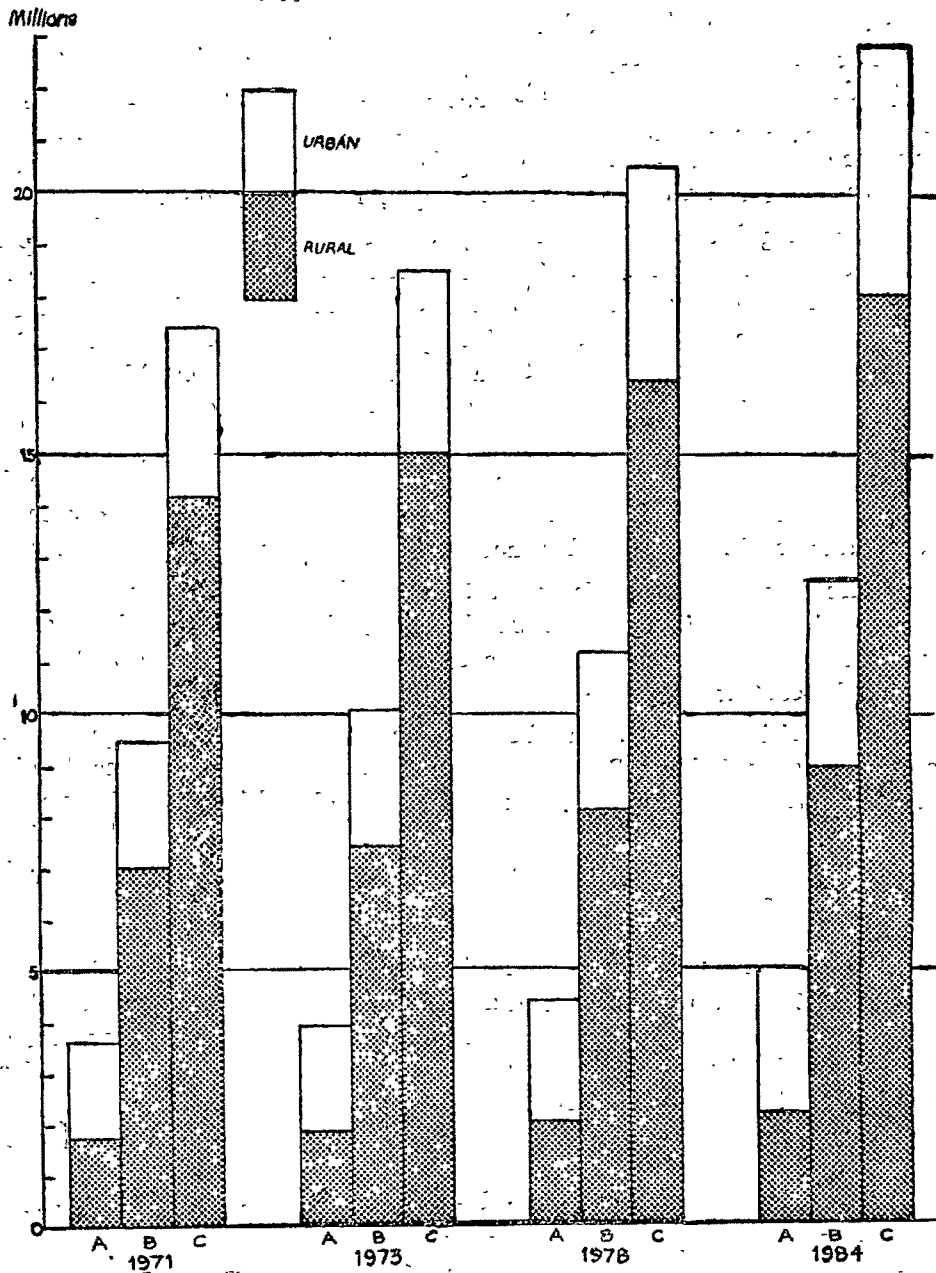
(C) Unemployment and Manpower Planning

In 1947 the Government of India set up the scientific Manpower Committee to recommend, among other things long term plans of development of technical and scientific education so that no industrial development project was hampered for want of scientific and technical manpower. With the commencement of planning era in 1951, manpower planning assumed considerable importance.

The work of manpower planning involves constant interchange of knowledge and experience, special investigation into actual utilisation of human resources and a feed back from the employing agencies. For this purpose the Planning Commission should have a strong unit to utilize the feed back information for estimating manpower requirements. In the socialist countries of the world detailed statistics on manpower requirements are collected from the

Estimated rural and urban unemployment

A : usual status (chronic) B : weekly status C : daily status



source : Khan, 1979.

various ministries and they are utilised to make manpower forecasts for planning purposes. The entire programme of higher education is drawn up keeping in view the manpower forecasts. In over country the Institute of Applied Manpower Research was set up in 1962 with sufficient autonomy to deal with this problem but very little is done on the line.

Removal of unemployment and significant reduction in under employment are listed as the principal objectives of the development strategy of the five year plan 1978-83. It is estimated of the plan to get fully implemented ; it will generate the following magnitude of employment opportunities within (1978-83) period.

(i) Agriculture and allied sector	22.77	million person years
(ii) Mining	0.45	"
(iii) Manufacturing including Cottage industries and small scale industry	8.92	"
(iv) Construction and Services	17.13	"
	49.17	"

If the planned pattern of investment and production materialises, it is likely to create 49.3 million additional person years of employment. It is not clear from the plan document how the sectorial estimates of employment generation have been calculated.

A tentative method for estimating the manpower demands on the basis of the projected employment during the plan period (1978-83). is being suggested.

In plan formulations sectorial outlays are given broadly under six sectors (1) Agriculture and Community Development (2) Irrigation and Power (3) Industries and Mining (4) Transport and Communications (5) Social Services (6) Miscellaneous. Net Domestic Product at factory cost by Industry of origin at current prices are given under 13 heads (1) Agriculture (2) Forestry (3) Fishing (4) Mining (5) Manufacturing (6) Construction (7) Electricity, Gas and Water supply (8) Transport, storage and Communication (9) Trade (10) Banking and Insurance (11) Real Estate, ownership of Dwellings and Business Services (12) Public Administration and Defence (13) Other Services. Recorded Employment (000) as on 31st March is given on the following heads (1) Plantations and Forestry (2) Mining (3) Manufacturing (4) Construction (5) Electricity, Gas, Irrigation and Power (6) Trade, Commerce (7) Transport and Communications and (8) Services.

From the above it is clear that the categorisation of the three important series are not identical, therefore for any statistical treatment we face serious difficulties to bring them under common heads. This leads to approximation.

Moreover employment figures include both private and public sectors, where as other figures relate to public sector only. From the point of view of timeliness these series are not comfortable. Therefore any attempt to project the manpower requirements and the employment is bound to be inaccurate. However a possible methodology for such forecasts is discussed below.

Let us write down the plan structure in tabular form.

Sectors	Years														
	Y1			Y2			Y3			Y4			Y5		
	A	E	G	A	E	G	A	E	G	A	E	G	A	E	G
S1	A11	E11	G11	A21	E21	G21	A31	E31	G31	A41	E41	G41	A51	E51	G51
S2	A12	E12	G12	A22	E22	G22	A32	E32	G32	A42	E42	G42	A52	E52	G52
S3	A13	E13	G13	A23	E23	G23	A33	E33	G33	A43	E43	G43	A53	E53	G53
S4	A14	E14	G14	A24	E24	G24	A34	E34	G34	A44	E44	G44	A54	E54	G54
S5	A15	E15	G15	A25	E25	G25	A35	E35	G35	A45	E45	G45	A55	E55	G55
S6	A16	E16	G16	A26	E26	G26	A36	E36	G36	A46	E46	G46	A56	E56	G56

Where S denotes sector

A ,, actual amount spent during the year for the sector
 E ,, employment ,, ,, ,,
 G ,, gross domestic product

Elasticity of Employment is defined as the relative change in employment in a given sector divided by the relative change in the gross domestic product in that sector i.e.

$$E = \frac{\frac{\Delta E}{E}}{\frac{\Delta G}{G}} = \frac{\Delta E}{\Delta G} \cdot \frac{G}{E}$$

For each sector for each year elasticity coefficients can be calculated. A trend of relationship between rate of increase in employment and rate increase in GDP in each sector may be established in the following form $G = \phi(E) \dots (1)$ From such a graph elasticity coefficients can be calculated for any value of GDP. Similarly a trend relationship may be obtained for each sector between allocation and gross domestic product

$$G = \psi(A) \dots \dots (2)$$

For a given plan when allocations are known, annual growth rate of GDP can be estimated for each sector from equation (2).

The increase in employment for each sector may be computed by multiplying the GDP growth rate by the estimated elasticity coefficient obtained from (1).

It has not been possible to calculate the employment figures because the basic data needed in table (3.1) are not available.

Having known approximately the employment situation during the plan period, manpower development plans have to be worked out.

The main instrument in the estimation of the needs is the occupational coverage of manpower survey. It should include top level posts in administration and management, professional occupations, technical occupations, highly skilled manual occupation concentrated mainly on the modern crafts; skilled office and clerical occupations. To translate the occupational needs to training needs, demand and supply information on all the occupations should be grouped into 4 or 5 broad categories defined as follows :

- C_A Jobs normally requiring a university degree or equivalence work experience.
- C_B Jobs normally requiring from one to three years formal post secondary education/primary.
- C_C Jobs normally require a secondary School education for standard performance in the occupation.
- C_D Jobs normally require a high degree of manual skills but do not need secondary education.

This classification is vital for estimating Manpower Requirements.

The four categories may be termed as Professionals, Technicians, Clerical workers and crafts men. In the first two categories Sand T personnel may be employed.

In India we never tried to do manpower planning, because it is difficult to assess the employment situation and also to translate occupational needs to training needs under the present political system. The evitable consequence is the large unemployment among the university graduates and diploma holders.

As the absorption of educated manpower is generally related to the rate of industrial growth, the maintenance of a high rate of industrial growth is essential for a reduction in educated unemployment.

It should be noted that for different categories of Matriculation-Graduate—Post-Graduate, the unemployment rates in 1978 are very divergent. Thus for medical and veterinary graduates, the rate is only 1 to 2 percent. For arts, science and commerce post-graduates, the rate varies from 3 to 4 per cent. But the rates are very high for engineering diploma-holders (20 per cent), education graduates (19 per cent), arts and science graduates (16 per cent) and matriculates and other graduates (12 to 13 per cent).

In the total volume of Matriculation-Graduate—Post-Graduate unemployment in 1978 (25.8 lakhs), the largest categories are : Matriculates (17.62 lakhs), Arts Graduates (2.30 lakhs). Education Graduates (1.31 lakhs), Science Graduates (1.25 lakhs), Commerce Graduates (0.79 lakhs) and Engineering Diploma

holders, (0.70 lakhs). Even in the coming years, the hard core of the educated unemployment problem will continue to be concentrated in the class of matriculates, arts, science, commerce and education graduates and engineering diploma-holders.

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INNOVATIONS IN EDUCATION—THE COLONIAL HISTORICAL CONTEXT*

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ABSTRACT

Innovations in the field of Education in preindependence period brought about a system of transplanation of the system of industrialised Europe leading to a conflict between traditional and colonial system. In this pre industrialised stage we have different types of instruction linked with occupational and cultural needs of various social groups and hence this has not been integrated to national system. The universities being much more a department of the government made negligible contribution to genuine intellectual growth. Professional and vocational education have had rather limited progress due to limited industrialisation and limited employment opportunities. After independence technological, professional and other production oriented education have been undertaken. In school curriculum changes have also been made in the contents of history, language and social science. But methods of instruction have not been changed. Indigenous language as medium of instruction has not been brought about. Scientific and technological education has been confined to limited elements compared to population. Agricultural education being a late arrival in the field of education seldom attracted children from farming strata. This should include knowledge about market for output, agricultural economy, etc. Technical education in earlier period produced only semiprocessed manpower...Innovative sectors were very small compared with educational system as a whole and remained isolated. Non-formal and adult education ideologically means universal adult education but the attempted fact is a much more moderate target.

INTRODUCTION

The entire history of the development of education is marked by innovations. The development of the university, the organisation of schools,—and of the class rooms, grading pupils by age and attainment—the organisation of teaching in defined subject-areas and in units, lessons or lectures of about one hour duration are all innovations to which we are by now completely accustomed. The discussion of innovations in the current period seems, therefore, to relate primarily to new techniques, forms of organisation, content of learning in the recent period (perhaps the past one hundred years) mainly after the development of national educational systems represented by schools and

* Prepared for the Second International Conference on History of Education, Jablonna, Poland, September 1980.

universities had already been consolidated, concurrently with the development of the nation state and in the West, the industrial commercial society. These would include, presumably, vocational and technical education, agricultural universities, adult and non-formal education, child-centred methods, new subjects or organisations of subject-matter, and now, non-formal education and the use of mass media and other similar developments.

The Educational System as Innovation.

However, it is useful to bear in mind also that in the non-Western context, particularly in the ex-colonies, the development of nation-wide educational systems, as they obtain today themselves, constitutes an innovation—as indeed, they were in western nations in an earlier period though in a different way and not to the same extent. In the colony, it was an innovation, of greater or lesser magnitude, varying with the complexity and sophistication of previous indigenous intellectual resources and extent of progress towards formation of nation-states prior to colonialisation. To state this is not to under-¹rae the significance of wide-spread systems of learning and schooling in many colonies. Indeed, one of the main points I would like to emphasise is the particular historical-as well as pedagogic or heuristic-value of the situation in the colonies. In countries like India and Sri Lanka, as indeed in China and Japan, the transplantation of the system as known in the industrialised European world brought about a situation of interaction, sometimes in the nature of conflict and at others of accommodation and absorption between the indigenous/“traditional” and the colonial/“modern”.

The idea of a national system has emerged with the nation-state which in its turn was associated with by well-known and recognised historical forces of industrial and commercial capital in recent centuries. Most colonies were, in this period, at a pre-industrial stage and had different types and levels of instruction catering in varying degrees of generality or specificity to occupational and cultural needs of different social groups and classes within the pre-industrial society, not yet integrated into a national state. Consequently, the “schools” too, were not integrated into a national system either vertically or horizontally even though common cultural elements were widespread in the schools and other places of learning.

The further point which has also to be made is that although the pre-colonial systems of learning as well as schooling lacked support in terms of employment as well as knowledge and skill requirements from either the national state or technology-based industry, they had, in the pre-colonial society, their own linkages with the systems of status and power as well as of wealth and production. In the establishment of the colony, a new system of authority and of economic relationships was imposed more or less—usually more rather than less—forcibly. However, maintenance of the society under colonialism was an exercise in accommodation at a subordinate level of the older status

and power-groups. Thus, we notice a certain persistence of the indigenous systems of schooling and learning. On this account quite apart from the vitality which indigenous systems of training for medicine and for priestly functions possessed by virtue of meeting continuing social and cultural needs. The gradual conversion or absorption into the new educational system lasted in the Indian case, for instance, over half a century in fact, rather longer.

Transfer of Institutions

Each new element of the Western educational system e.g. the introduction of printed texts or of the class* system, of instruction, the teaching of arithmetic rather than trading or agricultural accounts etc. was innovation—whether benevolent or otherwise—in the colonial situation. It was sponsored by the colonial state even as it laid the basis for modernisation. The transformation of such educational transplants into something different from what they had been in the independent national system of the colonising Western country is an aspect of the study of innovations particularly well illustrated in colonial contexts. The university, the introduction of diversified or practical courses particularly at secondary levels, the development of elementary curricula in the direction of sense-training, manual training, observation and relation to rural or agricultural environment, the provision of directly vocational or professional education within the system of formal education have all been characterised by such modification or distortion.

Briefly, the university became much more a department of the government than in the West, or at least in Britain on whom Indian universities were supposed to have been modelled, had much less independent intellectual creativity or social power, made virtually negligible contribution to genuine intellectual growth, unrelated as it was to indigenous intellectual idiom or activity. In fact, movements for national independence as in India, or revolution as in China performed the transforming functions, even on the intellectual plane which one would have associated with universities.

Similarly, courses of professional and vocational education have had rather modest success, if any—both on account of the exploitative colonial economic relationships which limited industrialisation processes to minimal levels and on account of the fact that employment even in the limited measures generated by the colonial economy was often diverted to citizens of the colonising western country concerned.

Again, the changes in school curriculum associated with industrialisation and democracy in the western world hardly took off the ground in the absence of either a strong and growing industrial sector in the economy or a vigorous

*It is interesting to note, though, that that predecessor of the rationalisation of instruction through the introduction of homogenous classes based on age and attainment—a parallel to similar rationalisation in modern industry—viz. the monitorial system of instruction was taken by Bell and Lancaster from India and U.K.

widespread democratic political and administrative culture. As a consequence, strong support was provided by both of these negative factors to the traditional verbalistic or authoritarian pedagogy which, incidentally, corresponded equally or even more so—to authoritarian or hierarchical social relationships in the colonial context.

After Independence

In post-independence societies of the ex-colonies we notice advances along many fronts. The sheer expansion demanded by democratisation and by the needs of consolidation of national political identity and authority has led to a multifold expansion of the formal education as inherited from imperial control. Varying with the scale of industrialisation, itself dependent on the strength of the national bourgeoisie—and seldom very substantial on account of the unequal relationships within the post-war world economy—large or small systems of technological, professional and other production-oriented education represented by new institutional types e.g. Institutes of Technology and Medicine and Agricultural Universities, etc., have been undertaken. While these sectors of education are, for instance in India, substantial and fairly advanced, they have tended to become producers of semi-processed manpower for the industrial systems of the west.²

In the school curriculum, the need for a new national education of independence and democracy, the former more than the latter, has induced changes in the content of history, language and social science learning. The introduction of active methods of learning based on environment was indicated by needs both political and technological. However, the political culture has been democratic only in form, the absence of radical movements or social change, the essential authoritarian content of traditional society overlaid with the new stratification system of contemporary post-independence period has, combined with educational methods and content of the inherited colonial education. Methods of instruction have not changed on any large scale. Introduction of indigenous language as medium of instruction has not been brought about. The introduction of science and technology—being confined to limited elements in society compared to the population as a whole—has influenced the school system only on a very small scale. The further problem of societies like India viz., the need to undertake advanced industrialisation in face of strong competition from world capital and in the context of a shortage of capital indigenously, led to the formulation of abortive schemes like basic education in India combining low technology work with schooling whose fortunes have been traced elsewhere.³

Agricultural Education⁴

In the long perspective of educational history, orientation of education towards agriculture can easily be seen as a late arrival. Training the rulers

(elite), training industrial producers, training agricultural producers, and training the common citizen, though general, technological, agricultural and mass adult education respectively appears to have been the broad sequence in which application of codified and cultivated knowledge through education, mainly formal, to improving economic production has been undertaken.

Throughout late nineteenth and early twentieth century, agricultural education has been in the nature of a groping venture based on *a priori* reasoning rather than empirically demonstrated fact. Thus, after the great famines of 1870's some officials of the British Government of India presumed that, on the one hand, industrial training could perhaps prevent the destruction of traditional handicrafts of the Indian countryside (by competition from industrial goods from the home country) and minimise the excessive pressure on land and, on the other, teaching of elements of earth science, botany etc. could make the farmer more efficient. The second line of thought into training for agriculture took shape in the form of agricultural schools and colleges. But these seldom attracted children from the farming strata themselves and even when they did so, helped, for reasons both social and educational, to make them more knowledgeable junior revenue officials. In fact, the very rationale for agreeing to four rather than only one Agriculture College in India in 1893 was "the leavening of the revenue service with agriculturally oriented personnel". Indeed, twenty years later one read an expert report to say that adequate knowledge of Indian soils and climates on which to found a proper agricultural education did not yet exist. The Indian Agricultural Research Institute had started earlier in the century. But a substantial thrust of agricultural research and education had to await the *big* spurt in agricultural research in mid-century combined with the decision of the government of independent India to accept foreign assistance and to develop agricultural universities on the model of U.S. land-grant college combining research, training and extension in a single institution. The years early after independence had been characterised by experimentation. Certain other models of rural education in community development or general rural higher education leavened with modest agricultural elements in contrast to the British period model of agricultural college whose research and extension components were minimally successful.

On reflection, it would appear that substantial agricultural education awaited not merely technical advances in agricultural knowledge and the sciences basic to it but also (a) the emergence of the independent state of national bourgeoisie providing the conditions in terms of (i) market for output, (ii) availability of needed inputs and (iii) services e.g. extension for successful agricultural expansion and (b) structural changes in the agricultural economy which had, after independence, seen the rise of a class of independent farmers possessing land and other economic resources to have the capacity to utilise the new knowledge.

Technological Education⁵

The case of technological education is similar though clearer. The colonial beginnings in education for civil engineering and small amounts of mechanical engineering corresponded to the infra-structure orientation of economy and policy under the British. The aspirations of the Indian bourgeoisie, expressed in small significant initiatives such as Tata sponsored Indian Institute of Science, Bangalore (1916), Banaras Hindu University's Mechanical Engineering and Mining and Metallurgy Training (1920's) or the Bengal National Council of Technical Education (1900's). The Technological Institutes of the postgraduate level, multi-speciality in their scope and oriented towards substantial R. & D relationships with industry are to be noticed largely in independent India-again related to the increased strength and ambitions of the Indian bourgeoisie as much as to the fact that such advances in technological education the world over were of, relatively speaking, recent origin.

In the industrial case, loss of trained manpower to the industrialised world is so substantial as to suggest, as it were, a division of labour in which Indian education produces, as was stated earlier, *semi-processed* manpower for the developed world.⁶

In both these cases, it is to be noticed that the innovative sectors being very small compared to the educational system as a whole have tended to remain isolated from it and retain an elitist character in order to be able to perform their specific functions. As they require proportionately a small intake of students and are in a position to attract it by virtue of the higher social status as well as academic pre-requisites associated with them, they cream off high ability students from the general educational system selected on more or less conventional achievement criteria. Thus they do not exercise a leavening or spread effect in terms of skills and values emphasised but in fact strengthen the conventional bookish, knowledge-oriented pedagogy. The major exception to this statement is, of course, the spread of formal science education in the general system under their impact as much as by way of the general tendency in education.

Non Formal and Adult Education⁶

The innovation represented by adult and non-formal education has a very different history. By and large, adult education has represented, in all societies, the effort of established ruling social groups and classes to disseminate skills and values useful for adaptation to social and technical change conducive to their continued ascendancy in the measure that obsolescence or inefficiency of formal schooling so requires. The sweep or substance of the adult education movement has never been very substantial when radical restructuring of social relations is not under way. For the contemporary

period, one may present the hypothesis that Western educational thought has accorded legitimacy to non-formal education mainly after the student revolts of 1960's. In ex-colonial countries, the spread of literacy and formal schooling being far from universal, on account of the fact that market economy and organised polity and administration represent a minority, even though core, element of economy and polity as a whole adult and non-formal education acquires a specific place in the identity formation and economic development efforts of the elites. Here, the ideology is universal adult education but the attempted fact is a much more modest target viz., knowledge and skill training for that minority of workers who are to enter the modern or the market oriented sector of the economy.

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TEACHER TRAINING : TRADITIONAL AND DEVELOPMENTAL LEARNING-TEACHING AND FIELD DEPENDENCE- INDEPENDENCE STYLES

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ABSTRACT

There is a divergent feeling as regards in-School teaching practices of the teachers who after completion of their in-College professional preparation resume services in Schools. This study attempts to highlight the significance of this aspect with group of samples (N-337) in field dependence-independence dimension chosen randomly from a training college in two successive years. Thurstone's Hidden Figures Test and a multiple-choice instrument of 18 items emerged as discriminatory were used in this investigation. The findings evolved as a result of this study entail that field dependent teachers tend to conform to teaching practices in traditional ways, whereas independents tend to sustain their persuasions.

INTRODUCTION

A disparity between in-college professional preparation of student-teachers and their in-school teaching practice is widely recognised on feeling and through studies. E. Brooks Smith (1967) found that faculties of education are theoretical and research-based in their approach and intent on making novices into experimental teachers. Schools and associate teachers are seen as based on "staffroom" rationales about teaching which is mainly concerned with communicating content to classes of pupils held in control suppressive, hard discipline. Such an approach may be termed traditional, and it is teacher-centered.

The developmental approach favoured by faculty professors according to Cheong (1970), Cope (1972), Povey (1975), Stones and Morris (1972) and others is pupil-centered. Its orientation is to nurturing the educand's intellectual and emotional growth through emphasis on processes of learning rather than subject-matter. The goals are self-expression and creativity.

It is in these two milieus of the traditional and the developmental that a student-teacher's training takes place. Confusion and switching of approaches to teaching are obvious hazards. Thus, the motive force for the action investigation evokes two questions which were posed as such :

- (i) how far is a developmental approach to learning-teaching sustained by student-teachers in their first teaching practicum ?
- and

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(ii) is there a relationship between field dependence-independence and adherence to developmental class-room practice?

The thrust is to ameliorate the gulf between faculty and school to the benefit of individual student-teachers.

The field dependence-independence dimension was selected as an illuminative variable because of the findings of Witken and others (1975 and 1976). The pertinent finding is that field dependent persons tend to conform to traditional ways, whilst field independent people have an affinity with non-conformity and change. In conformable circumstances, "independents" tend to sustain own persuasions.

METHOD

Sample

The study was restricted to two groups of student-teachers selected at random from a training college in 1977 and 1978. Samples chosen as such are shown in relevant tables.

Tools

This investigation was conducted with the following tools :

- (a) Thurstone's Hidden Figures Test was used to differentiate "dependents" and "independants".
- (b) To establish "traditional" and "developmental" persuasions, a multiple-choice instrument of 22 items was devised by consensus by five instructors. From statistical analysis 18 items were emerged as discriminatory. Each item was assessed twice : for a "developmental" response and a "traditional" response.

Procedure

The tests were administered to student-teachers in the course of five instructors immediately before their first round of teaching practice. Prior to that there had been six weeks of in-faculty preparation. The emphasis was in lesson-structuring based on inductive process, on devising learning-teaching activities for pupils, and on adult-to-adult pupil-teacher relationships. The orientation was towards pupil-centered and developmental approaches to learning-teaching.

After the teaching practice, the multiple-choice was re-administered, thus the investigation used pre- and post-test strategy to identify change. Statistical controls were used to identify and measures the changes.

RESULTS AND INTERPRETATIONS

The data thus obtained were subject to statistical analysis and tabulated in the tables as follows:-

Table 1

Showing field dependence-independence dimension

¹ 1977 Sample (N = 159)	² 1978 Sample (N = 178)
M = 13.34	M = 13.54
S.D. = 10.52	S.D. = 8.21
S.E. = 1.63	S.E. = 0.59
P.E. = 1.12*	P.E. = 0.365*

* $P < 0.01$ ¹Random sampled from 157 student-teachers.²All students who had completed the test.

Table 1 shows that each sample was divided into "dependents" and "independents" relative to the means. The 1977 sample indicated "dependents" for scores below 13.34 and "independents" for above 13.2.

Table 2

Showing developmental test-item responses : whole sample

1977 sample		1978 sample	
Pre-test	N = 159	Pre-test	N = 192
	M = 10.212		M = 8.659
	S.D. = 2.36		S.D. = 2.14
	P.E. = 0.342*		P.E. = 0.16*
Post-test	N = 159	Post-test	N = 196
	M = 10.212		M = 8.021
	S.D. = 2.731		S.D. = 2.54
	P.E. = 0.374*		P.E. = 0.162*

* $P < 0.01$

The data as shown in Table 2 reveal that in 1977 sample the mean difference between pre- and post-tests of O indicates no change in a developmental outlook towards teaching. In 1978 sample the mean difference of 0.638 in favour of pre-test has a significance of difference of 0.345 and critical ratio of 1.812. The mean difference is insignificant and could be due to sampling fluctuations. It may be claimed that during the first teaching practice developmental outlooks and persuasions towards teaching remained stable.

Table 3
Showing traditional test-item responses : whole sample

1977 sample		1978 sample	
Pre-test	N = 159	Pre-test	N = 191
	M = 9.46		M = 7.25
	S.D. = 2.526		S.D. = 2.26
	P.E. = 0.243*		P.E. = 0.154*
Post-test	N = 159	Post-test	N = 195
	M = 9.685		M = 8.154
	S.D. = 2.554		S.D. = 2.582
	P.E. = 0.371*		P.E. = 0.174*

* $P < 0.01$

Analytical study of data as given in Table 3 indicates that in 1977 sample the mean difference of 0.225 with its standard error of 0.52 and critical ratio of 0.425 indicating insignificance, shows that traditional persuasions remained stable during the first teaching practicum. The same interpretation applies to the 1978 sampling.

A comparison of 1977's pre-test developmental and traditional responses points out that the student-teachers tended to be more developmental than traditional. The difference in means is 0.461 and insignificant. A similar comparison of the 1978 means shows that the student-teachers proceeded to their teaching practice definitely biased towards developmental teaching. The mean difference of 2.33 is significant (standard error of difference is 0.35 and the critical ratio is 6.65).

For the sake of brevity the 1978 results are reported in Table 4A, 4B, 4C and 4D. They are very similar to the outcomes of the 1977 investigation.

Table 4A

Showing "dependents" and pre-test developmental-traditional responses

"Dependents" and pre-test developmental responses	"Dependents" and pre-test traditional responses
N = 134	N = 135
M = 9.42	M = 6.72
S.D. = 2.51	S.D. = 2.04
P.E. = 0.302*	P.E. = 0.23*

* $P < 0.01$

The mean difference of 2.71 is in favour of developmental responses. The standard error of difference of 0.56 and the critical ratio of 4.64 reveal significance of the difference.

Before the first teaching practice, therefore, "dependent" student-teachers were more developmental than traditional in teaching approach.

Table 4B

Showing "independents" and pre-test developmental-traditional responses

"Independents" and pre-test developmental responses	"Independents" and pre-test traditional responses
N = 136	N = 136
M = 10.22	M = 6.711
S.D. = 2.08	S.D. = 1.12
P.E. = 0.221*	P.E. = 0.1242*

* $P < 0.01$

The mean difference is 3.42 in favour of developmental responses and significantly so (standard error of 0.3924 and critical ratio of 8.64).

Like "dependent" student-teachers the "independents" were significantly more developmental in teaching approach.

Statistically, neither is distinguishable developmentally.

Table 4C

Showing "dependents" and post-test developmental-traditional responses.

"Dependents" and post-test developmental responses	"Dependents" and post-test traditional responses
N = 135	N = 137
M = 8.762	M = 9.57
S.D. = 2.54	S.D. = 2.532
P.E. = 0.2762*	P.E. = 0.27*

* $P < 0.01$

The mean difference of 0.607 in favour of traditional responses is insignificant (standard error of difference is 0.582, the critical ratio is 1.02).

Though "dependents" after their first teaching practice increased their traditional responses whilst the developmental declined, the difference is insignificant and could be due to sampling fluctuations. Nevertheless, comparison of "dependents" pre- and post-test traditional responses shows a mean

difference of 2.65, a standard error of difference of 0.52 and a critical ratio of 5.1 which is significant.

It may be said that "dependent" student-teachers become more traditional in their teaching approach during first practice experience.

Table 4D

Showing "independents" and post-test developmental-traditional responses.

"Independents" and post-test developmental responses	"Independents" and post-test traditional responses
N = 137	N = 137
M = 9.26	M = 7.453
S.D. = 2.41	S.D. = 2.65
P.E. = 0.252*	P.E. = 0.2503*

* $P < 0.01$

The mean difference of 1.716 in favour of developmental responses is significant (standard error of difference = 0.5423, critical ratio = 3.28).

Clearly, during the teaching experience "independents" remained more developmental in their approach to teaching. A comparison of pre- and post-test developmental responses gives a mean difference of 0.76 towards the pre-test. The standard error of difference of 0.5224 and critical ratio of 1.655 indicates insignificance. "Independent" student-teachers, therefore, remain stable in their developmental, non-conformist, charge-orientated outlooks to teaching.

CONCLUSION

Generally, student-teachers during their initial teaching experience retain a balance between developmental and traditional approaches. When differentiated according to field dependence and independence, the balance is upset.

Initially before teaching practicum both "dependents" and "independents" are more developmental than "traditional". Afterwards, dependents become more traditional probably due to the influence of the school and the associate teacher. "Independents", however, despite the claim of practicality of actual teaching and the claimed need for teacher-centredness and control by discipline, retain their bias towards developmental teaching.

Future needs for the benefit of student-teachers in their professional training year are to match them to associate teachers according to field dependence-independence; cross matching too could be an experimental benefit. What matters is for student-teachers to find their learning-teaching mode without

confusion. It follows that field dependence-independence could be a means for closer articulation between in-college preparation and in-school teaching practice.

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AN INVESTIGATION OF THE RELATIONSHIP BETWEEN
CREATIVITY, PERSONALITY AND VOCATIONAL INTEREST
OF 12TH GRADE STUDENTS OF A DELHI SCHOOL

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ABSTRACT

In the present study creative aptitude tests criterion was used following Torrance Tests of Creative Thinking. An attempt was made to see the relationship between creativity, extroversion, introversion and Thurstone's interest factors. The sample consisted of 116 students (61 girls and 55 boys) of 12th grade under 10+2+3 system from Delhi Administration School. The Torrance Tests of Creative Thinking (Product Improvement, Unusual Uses Activity, Unusual Questions Activity, and Just Suppose Activity), Maudsley Personality Inventory (MPI) and Thurstone Interest Schedule were administered at different occasions. The data were analysed by t-test and Product Moment Correlation after dividing the sample into four groups, viz., (i) high creative boys, (ii) high creative girls, (iii) low creative boys and (iv) low creative girls. The results showed that : (i) high creative boys differed significantly from low creative boys on extroversion as well as introversion, (ii) statistically significant difference was found between high and low creative girls on extroversion as well as introversion, (iii) no significant difference was found between high creative boys and low creative boys on any of the Thurstone Interest factor, while high creative girls differed from low creative girls on business only, (iv) there is a significant positive correlation between creativity and extroversion. There is a significant correlation between creativity and computation ; creativity and business ; and creativity and executive.

INTRODUCTION

The present interest in the creative or inventive process—the process through which the mind produces new and useful ideas—from a growing realization of the importance of new ideas for the success of an individual or a nation. In fact, in a progress oriented society such as ours, a weakness in the ability to produce and implement worthwhile new ideas, may well spell a disaster or seriously hamper an individual's chances for advancement.

Creativity is one of the most highly valued human qualities, because creative acts affect enormously not only scientific progress, but society in general. Those nations which learn best how to identify, develop and encourage creativity in their people may find themselves in a very advantageous position. Creativity, at its highest level, has probably been as

important as any human quality in changing history and in reshaping the world. If we are to survive in international competition, the most promising solution is for this nation to encourage and support the identification and development of highly creative persons.

In the second decade of the last century when experimental psychology was on its way, the concept of creativity drew the attention of the psychologists. Galton (1869) in his publication of 'Men of Genius' recognized creativity as a trait. Though the experimental studies on creativity were first conducted by Patrick (1937, 1938 and 1941), the major scientific attempt which showed that 'creativity is a function of intellect' was that of Guilford (1950). So long studies on creativity have been done focussing primarily on the intellectual aspect of personality. Very last attempts have been made to study creativity as an integral component of personality functioning in interaction with the total personality. Since the creative persons are distinguished more by interest, attitudes and drives rather than by intellectual abilities, the assessment of creative potential, therefore, should include not only singular intellectual characteristics but also cognitive style and personality variables. Creativity, in other words, is not entirely a cognitive process, nor it is entirely a result of complex set of personality traits.

In the present study creative aptitude test as criterion was used. For this Torrance Tests of Creative Thinking were taken. The tests have been found to be reliable and valid under Indian Conditions by Basu and Jawa (1973) Raina (1966, 1968 and 1969), Strauss and Strauss (1966), among others. The aim was to see if there was any relationship between creativity, extroversion, introversion, and Thurstone Interest factors within a group of 12th grade school students.

METHODOLOGY

Sample : The sample for the present study consisted of 116 (55 boys and 61 girls) students of the 12th grade under 10+2+3 system from a reputed Delhi Administration School.

Tools Employed : The tools consisted of

- (i) Torrance Tests of Creative Thinking (Product improvement, Unusual Uses of Cardboard Boxes, Unusual Questions, and Just Suppose) (Torrance, 1966).
- (ii) Maudsley Personality Inventory (MPI) (Jalota and Kapoor, 1965).
- (iii) Thurstone's Interest Schedule (Thurstone, 1947).

Procedure : Rapport was established with the students by explaining them the objectives of the study in brief. The data were collected by administering the tests in a group situation consisting of 25 to 30 students in different settings and on different days.

RESULTS AND INTERPRETATION

On the basis of composite creativity scores, students of each sex were divided into 'high' and 'low' creative groups. The cutting point was the median score. The students scoring more than 108 on composite creativity scores were taken as 'high' group and below 108 were considered as 'low' group. Each group was again subdivided into two categories on the basis of sex. Four groups thus were formed, viz., (1) high creative boys, (2) high creative girls, (3) low creative boys, and (4) low creative girls. Table 1 presents comparison between high and low creative groups on extroversion and introversion test scores.

Table I

Comparison between High and Low Creative Groups on Extroversion and Introversion

	High		Low		t	Level of
	Mean	S.D.	Mean	S.D.	Value	Significance
Boys						
Extroversion	21.76	6.62	26.27	5.70	2.78	<.01
Introversion	24.60	9.41	17.60	7.75	3.04	<.01
Girls						
Extroversion	29.41	6.41	29.14	8.14	0.38	NS
Introversion	20.52	8.78	22.56	10.62	0.78	NS

It is evident that high creative boys differed significantly as compared to low creative boys on extroversion as well as introversion. The result shows that the high creative boys are introverts. No statistically significant difference was found between high creative girls and low creative girls either in extroversion or in introversion. However, the trend revealed that high creative girls as well as low creative girls scored higher on extroversion as compared to high creative boys and low creative boys.

Table II and Table III present comparison between high and low creative boys, and high and low creative girls respectively on interest factors.

Table II
Comparison between High and Low Creative Boys on Interest Factors

Interest Factors	High (N=25)		Low (N=30)		t-Value	Levels of Significance
	Mean	S.D.	Mean	S.D.		
Physical Sciences	6.60	5.47	6.23	4.69	<1	NS
Biological Sciences	3.72	5.27	3.60	5.57	<1	NS
Computation	4.92	5.52	6.53	4.26	1.33	NS
Business	6.80	4.63	8.20	4.73	1.31	NS
Executive	6.52	5.06	7.23	4.16	<1	NS
Persuasive	4.12	4.22	5.37	4.52	1.06	NS
Linguistic	4.36	4.18	6.30	3.89	1.80	NS
Humanity	2.00	3.07	3.33	3.59	1.46	NS
Artistic	2.84	4.11	3.27	2.85	<1	NS
Musical	1.92	2.84	2.50	3.12	<1	NS

Table III
Comparison between High and Low Creative Girls on Interest Factors

Interest Factors	High (N=29)		Low (N=32)		t-Value	Levels of Significance
	Mean	S.D.	Mean	S.D.		
Physical Sciences	7.72	5.45	6.06	5.24	1.52	NS
Biological Sciences	5.69	6.11	6.31	7.21	<1	NS
Computation	5.83	5.13	4.88	4.57	<1	NS
Persuasive	6.93	4.60	5.22	4.65	1.38	NS
Business	7.59	5.37	5.09	3.64	2.05	<.05
Executive	8.10	4.44	7.91	4.24	<1	NS
Linguistic	6.17	3.93	6.72	4.82	<1	NS
Humanity	4.69	3.33	4.91	4.25	<1	NS
Artistic	5.14	3.25	4.53	4.33	<1	NS
Musical	3.55	4.26	3.00	3.52	<1	NS

No statistically significant difference was found between high creative boys and low creative boys on any of the interest factor (Table II). However, low creative boys scored higher than the high creative boys on all the interest factors except physical sciences and biological sciences. Further, Table III revealed that high creative and low creative girls differed significantly from each other in respect of business only, with high creative girls scored higher than low creative girls. No statistically significant difference was found between the two groups in respect of the interest factors.

Product movement correlation was also computed to find out the relationship between creativity and Extroversion-Introversion and also between creativity and interest factors for the entire group of subjects. The correlation between creativity and extroversion was found to be 0.31 ($p < .05$) and that between creativity and introversion was 0.18 (NS). The correlation between creativity and interest factors is presented in Table IV.

Table IV
Coefficient of Correlation between Creativity and Interest Factors

Interest Factors	Creativity	Level of Significance
Physical Sciences	.18	NS
Biological Sciences	.16	NS
Computation	-.28	<.01
Business	.20	<.05
Executive	.27	<.01
Linguistic	.17	NS
Humanity	-.10	NS
Persuasive	.14	NS
Artistic	-.11	NS
Musical	-.09	NS

Table IV revealed that business and executive interests had positive and significant correlation with creativity. Computation was found to have significant but negative correlation with creativity. No statistically significant correlation was found of creativity with any of physical sciences, biological sciences, persuasive, linguistic, humanity, artistic and musical interests.

DISCUSSION

It was found that high creative boys differed significantly from low creative boys on extroversion, whereas no statistically significant difference was found between high creative girls and low creative girls. The trend, however, revealed that girls scored more as compared to boys on extroversion. Further, it is also seen that the correlation between creativity and extroversion is 0.31, which is significant at .05 level. This is in conformity with other findings (Kobayashi, 1970; and Blackhall, 1971; Chadha, 1979). The investigators find that creative person should be stable, social and adjustable. Extrovert persons have these qualities. This may be the reason that the correlation between creativity and extroversion is positive and significant. The results also show that high creative boys differed significantly from low creative boys on introversion whereas no statistically significant difference was found between high creative girls and low creative girls.

Interests are motivational aspects of behaviour, and they determine the latent tendency of the individual to act and carry on a particular function. This is why, Haag and David (1968) emphasize their importance in creativity and maintains that interest is a factor of creativity.

However, in the present study, no statistically significant difference was found between high creative boys and low creative boys on any of the interest factor. The mean difference between high creative girls and low creative girls differed significantly from each other with respect to business interest only, while no statistically significant difference was observed with respect to other factors.

The results also indicate that the high creative group (boys as well as girls) scored higher on physical sciences as compared to low creative group. Creativity is the process of visualising, fore-seeing and generating ideas. This process depends on thinking and reasoning. Interest for Physical sciences involve more of thinking variable and this might be one of the reasons for the creative subjects to score high on interest for Physical sciences.

Further, it was found that creativity is positively and significantly correlated with business. This substantiate the earlier findings (Roe, 1958; Stein, 1953; Cattell, 1958; and Mackinnon, 1961).

The mean difference between high and low creative girls in respect of artistic interests was found to be insignificant with high creative girls having more artistic interest. The difference between high and low creative boys in respect of artistic interest, though was found to be insignificant, tended to show that high creative boys as compared to low creative boys had fewer artistic interest. This is at variance with other study (Flax, 1967) was but appeared more logical. Artistic interest involves the emotional aspects, whereas the creative process involves the cognitive aspect, and the two were diametrically opposed to each other (Sharma, 1974). This might be one of the reasons for high creative boys to have fewer artistic interests. Mean comparison between high creative boys and girls indicated that girls as compared to boys had more artistic interests. This might be explained by the fact that by and large the girls as compared to boys were generally more emotional.

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A STUDY OF INTEREST AND ABILITY OF THE SECONDARY SCHOOL STUDENTS IN SCIENCE

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ABSTRACT

The present investigation was intended to determine the exact nature of relationship between interest and ability and to suggest some dependable criteria for guiding students in science stream of the present school education. The member of samples chosen for this study consisted of 207 pupils belonging to 11th class of 12 Higher Secondary Schools in West Bengal and having age group of 17+. The finding emerged out of the study pointed to the conclusion that intelligence and interest taken together were the better predictor of achievement in science than interest or intelligence alone.

INTRODUCTION

Interest has been a major concern to the Educators since the impact of John Dewey (1958) was first widely felt, but this concern was not always accompanied by clear thinking. In fact the literature on interests was self-contradictory and confusing in a number of respects. Psychologists like Cronbach (1961) claimed that interests were so fleeting and unreliable that they merit little attention, and some studies seemed to support this position by reporting considerable change of interests overtimes. (Darley and Haganah, 1955). At the same time other investigators like Callis, Polmantier and Roeber (1955) held that interests were stable enough to provide a basis for education and guidance. Similarly some research reports were written of interest as determinant of success, while others produced evidence that did not substantiate this claim. (Jones, 1951). Again the origin of interest had variously been traced to aptitudes, personality traits and experience with conflicting implications for education and also for guidance.

It was a pertinent question to a counsellor whether guidance should have to depend only on the interest or ability or both of the individual. There is a popular belief that educational guidance has to depend mainly on the interest of the individual. In fact interest has probably received considerable attention during recent times in educational guidance programme. This naturally leads to a critical question: Do the predominant abilities and the predominant interests of the same individual point the same way? If

abilities point one way and interests another, it would be difficult for us to arrive at a final decision, unless we know which of these two entities should be judged more reliable. With this aim in view the problem was selected for investigation with special reference to achievement in physical sciences.

METHOD

Sample

The parameter for the study was drawn from the student population of class XI of twelve Higher Secondary Schools having science stream. The schools were selected following random sampling technique. Out of the total number of student population studying in class XI, 207 Ss having age group of 17+ were chosen following the same technique as was adopted in the selection of schools.

Tools

The tools that were used in this investigation consisted of (a) standardised Intelligence Test (G. Pal and S. Bose, 1949), (b) Strong's Vocational Interest Blank (adapted in Bengali by M. Deb, 1971), (c) Scientific Aptitude Test (S. Ghosh, 1968) and (d) Achievement Test in Physical Science (designed on the basis of the Higher Secondary Examination counted by West Bengal Board of Secondary Education in 1975).

Procedure

The tests as employed for the study were administered on 207 Ss of class XI belonging to the science stream of twelve Higher Secondary School and the scores as obtained by these subjects in physical science in both of the annual examination in the respective school and the Higher Secondary final examination held in 1975 were also collected. The scores thus obtained in the bipolar approach were subsequently subjected to statistical analysis.

Result

The findings as emerged through statistical operations were explicitly depicted in tables shown below :

Table I gave a pen-picture of the nature of the relationship between the

Table 1

Correlation matrix of the test-scores including H.S. and school marks in physical science

Variables	Aptitude	Interest	Intelligence	H.S. Marks	School Marks
Aptitude	—	.58	.66	.62	.49
Interest	.58	—	.58	.49	.36
Intelligence	.66	.58	—	.71	.53
H.S. Marks	.62	.49	.71	—	.73
School Marks	.49	.36	.53	.73	—

different cognitive abilities and achievement test scores. The correlation coefficients as estimated schoolwise and between different variables under study indicated that the degree of association varied from 0.49 to 0.73.

In order to determine the relative influence of the variables considered in this investigation the envisaged attempt was enumerated here. From table 2 it was evident that the multiple correlation between the scores in regard to the variables as used keeping H.S. results constant was found to be 0.58 which was statistically significant.

Table 2

Correlation matrix of four variables including H.S. marks in Physical science and coefficient of multiple correlation.

Vaariables	H. S. Marks	Aptitude	Interest	Intelligence
	1	2	3	4
1. H. S. Marks	—	$r_{12}(.62)$	$r_{13}(.49)$	$r_{14}(.17)$
2. Aptitude	$r_{21}(.62)$	—	$r_{23}(.58)$	$r_{24}(.66)$
3. Interest	$r_{31}(.46)$	$r_{32}(.58)$	—	$r_{34}(.58)$
4. Intelligence	$r_{41}(.71)$	$r_{42}(.66)$	$r_{43}(.58)$	—

$$r_{1.2.3.4} = \sqrt{1 - \frac{R}{R_{11}}} = 0.58$$

Table 3 spoke of the multiple correlation between the score in respect of of interest and intelligence keeping H.S. result constant. The coefficient was estimated to be 0.72 which was highly significant.

Table 3

Correlation matrix of three variables including H.S. marks in Physical Science and coefficient of multiple correlation

Variabies	H. S. Marks	Interest	Intelligence
	1	2	3
1. H. S. Marks	—	$r_{12}(.49)$	$r_{13}(.71)$
2. Interest	$r_{21}(.49)$	—	$r_{23}(.58)$
3. Intelligence	$r_{31}(.71)$	$r_{32}(.58)$	—

$$r_{1.2.3} = \sqrt{1 - \frac{R}{R_{11}}} = 0.72$$

Table 4 indicated multiple correlation between the scores in connection with aptitude and interest keeping H.S. result constant. The coefficient was calculated to be 0.64 being significant at 0.01 level of confidence.

Table 4

Correlation matrix of three variables including H.S. marks in Physical Science and coefficient of multiple correlation

Variables	H. S. marks	Aptitude	Interest
	1	2	3
1. H. S. Marks	—	$r_{12}(.62)$	$r_{13}(.42)$
2. Aptitude	$r_{21}(.62)$	—	$r_{23}(.58)$
3. Interest	$r_{31}(.49)$	$r_{32}(.58)$	—

$$r_{1,2,3} = \sqrt{1 - \frac{R}{R_{11}}} = 0.64$$

The results from Aptitude and Intelligence tests were taken as a whole keeping H.S. marks constant and the coefficient of multiple correlation as recorded in Table 5 was found to be 0.74 pointing out its statistical significance at 0.01 level of confidence.

Table 5

Correlation matrix of three variables including H.S. marks in Physical science and coefficient of multiple correlation

Variables	H. S. Marks	Aptitude	Intelligence
	1	2	3
1. H. S. Marks	—	$r_{12}(.62)$	$r_{13}(.71)$
2. Aptitude	$r_{21}(.62)$	—	$r_{23}(.66)$
3. Intelligence	$r_{31}(.71)$	$r_{32}(.66)$	—

$$r_{1,2,3} = \sqrt{1 - \frac{R}{R_{11}}} = 0.74$$

DISCUSSION

It was evident from the statistical analysis that the correlation between intelligence and achievement was very high and it was to the extent of 0.71.

This finding at once pointed out that intelligence played a very predominant role behind scholastic achievement specially in regard to science subjects and thus the importance of intelligence test in educational guidance programme was firmly established. Hence there was good ground to believe that mental ability and ability to learn science, in other words, scientific ability were closely related.

As regards the relation between interest in science and achievement in science subjects the degree of correlation was estimated to be .49 and so the popular belief that interest played a significant role behind attainment in science subjects seemed also to a certain extent true. Infact, interest in science appeared to be moderately related to scientific ability (as measured by achievement test in physical science) which at once signified that abilities and interest of the corresponding type were not highly correlated with one another. This position was also supported by a study conducted by Bardhan (1969), and had given rise to a very crucial point for consideration in connection with educational and vocational guidance.

It was also observed that mental ability and interest in science were significantly related to each other, the coefficient of correlation being 0.58. Hence there was a good deal of justification in believing that intelligent students were more interested in science subjects. Moreover the coefficient of correlation between interest in science and scientific aptitude was also found to be 0.58 which was not only positive but highly significant at the same time. Mention could be of the findings that the coefficient of correlation between achievement scores in physical science and respective combined scores on tests in mental ability and interest, mental ability and aptitude, aptitude and interest and over all combined scores on tests in mental ability, interest and aptitude were estimated to be 0.72, 0.74, 0.64 and 0.58 respectively.

Thus from what was indicated above it was more or less evident that interest was moderately related to educational and vocational success. The predominant abilities and predominant interest of the individual did not always point the same way. Interest could not alone be responsible for counselling students either in educational or vocational guidance. But at the same time their mental abilities must be taken into consideration.

CONCLUSION

The forgoing discussion led to conclude that a combination of measures of mental ability, interest and aptitude might be accepted as a much dependable criterion in educational guidance than any of these measures used singly.

In fact intelligence and interest taken together was a better predictor of achievement in science than interest or intelligence alone. Hence it could be strongly reaffirmed that interest alone could not be considered a major predictor of achievement in science.

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A STUDY OF RELATIONSHIP BETWEEN ADJUSTMENT AND PERCEIVED PARENTAL BEHAVIOUR AMONG THE MALE & FEMALE COLLEGE STUDENTS

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ABSTRACT

The purpose of the present study is to find out the relationship between perception of early parental behaviour and present adjustment of adults. The subjects comprised 20 male and female P. G. students. The tools used were a locally devised rating scale and Bell's adjustment inventory. The results as obtained point out the influence of the home environment and the pattern of interaction between the parents and the child on personality development and adjustment.

INTRODUCTION

Man's interpersonal relationship being in his family, and mental health of the growing child depends considerably upon the influence of the parents. This has been stressed by Freud (1911) and later emphasized by Sullivan (1974). Flugel (1934) has stated that lack of (parental) love and affection gives rise to a lasting sense of injury in child's mind. Early family experiences influence the behaviour patterns he acquires, the goals he seeks and the kind of adjustment he achieves. From his early relationship with his parents he develops emotional patterns and attitudes that govern his later dealings with people and social institutions (Lehner & Kube, 1964 ; Serot & Teevan, 1961).

In the development of the self-concept one of the important aspect is that of the self as a male integration and differentiation and is influenced by environmental factors making it possible for the individual to organize his separate experiences and to order his behaviour toward the more adequate satisfaction of unique need (Abt, 1959). In attempting to adjust in a unique way with the environment individual interacts with the people and this interpersonal relationship has an important part to play in the development of personality and some of its chief factors are identification, projection, reaction formation and regression (Young, 1952).

It is commonly agreed that boy's pattern for himself in the male role is obtained from his identification with the father and the girl's identification with the female role is from the mother. Identification is evidently important to the

personality development and adjustment, and also to the acquisition of many patterns of the behaviour including those involved in masculine and feminine, social and sexual ones. Moreover, relationship with the parents of the same sex apparently play some significant role in this process (Nash, 1965).

Theorist Fromm places emphasis on the atmosphere of the parent-child relationship. For Fromm, "being wanted" and 'loved' are the most important features of the developing child's social experience. On it depends the kind of personality that will emerge. Thus, while everyone concedes that the personality is influenced comparatively early in life by things the parents do, precisely what elements of qualities are most important in the parent-child relationship and why is the subject of considerable controversy (R. S. Lazarus, 1969).

Allport (1950) maintains that children and youth need warm affectionate relationships and at the same time need a respect for and a defense of their own self-esteem when bids for affection or belongingness are rebuffed or self-esteem is threatened; hostility is the usual result in outward conduct while sensitiveness and frustration are the inner correlates.

S. J. Blatt in his study reports that "there are relations between depression and parental descriptions in a sample of normal young adults". It is the perception of the parents as lacking in nurturance, support and affection which is related to depression rather than perception of parents as striving, harsh, and judgmental. Ausubel et. al (1954) maintains that whatever may be the attitudes or behaviour of parents toward their children, the effect on the children is mediated through the children's perception of them.

As the importance of the parent-child interaction has been widely accepted, the present study was undertaken to find out the relationship between perception of early parental behaviour and present adjustment of adults.

METHOD

OVERVIEW AND DESIGN

To measure perceived parental behaviour a rating scale was specially constructed. Altogether twentyone concepts regarding parent behaviour were chosen after surveying literature and out of the expectencies of the present authors. The concepts chosen ranged from nurturance, affective reward, sense or security felt to possessiveness, achievement demands, etc. In the initial set there were 63 items; three for each concept. In the final list of items only 42 items were retained. The face validity of the retained items was established by selecting only those items which were rated highest by five experts. Thus, a five point rating scale was devised to measure the perception of parental behaviour in early life.

Adjustment was measured by administering Bell's Adjustment Inventory to all the subjects. Subject's score on home adjustment, health adjustment, social adjustment and emotional adjustment were taken into account.

SUBJECTS

The subjects were 20 male and female students of University. Most of the subjects were from different streams of science. Socio-economic class of the sample was middle class. All the subjects were reared up at home by their parents, not sent to hostel. All the subjects' mothers were housewives and did not work outside. Subjects were most willing to give the data on the proposed study. The age range was from 22 to 25 years.

PROCEDURE

After establishing proper rapport subjects were administered rating scale. Here, the subjects were asked to rate each item separately for each of the parents (i.e. mother and father). They were assured to feel free to give honest and candid answers as the answers would be treated in the strictest of confidence. After the completion of rating on the constructed scale, they were administered Bell's Adjustment Inventory with proper instructions. Here, the subjects were asked to answer in 'Yes' or 'No' to each question.

In this way all the subjects were administered rating scale and Bell's Adjustment Inventory individually in a single session in laboratory.

The obtained data were scored separately. Adjustment Inventory was scored according to its scoring key and obtained score was compared with the given norm.

In rating scale, numerical value for each rating was calculated. As this was a five point rating scale the values ranged from 1 to 5. Then the summation of scores for total rating scale items was calculated. Thus, the obtained data were treated statistically.

RESULTS AND DISCUSSIONS

In the present study, correlations between adjustment inventory score and perceived parental behaviour score were plotted. Four aspects of adjustment—home, social, emotional and health were each separately correlated with male subject's perception of father and mother. Similarly, female subject's perception of father and mother each separately were correlated with the same four aspects of adjustment.

TABLE I
Correlations between Adjustment Scores and Parent Perceptions

	Male		Female	
	Perception of father	Perception of mother	Perception of father	Perception of mother
Home adjustment	.352	.466	.24	.500
Emotional adjustment	.528	.387	.667	.615
Social Adjustment	.102	.030	.48	.693
Health adjustment	.091	.082	.375	.795

TABLE 2

Correlations between total Adjustment Score and Parent Perception

	Male		Female	
	Perception of father	Perception of mother	Perception of father	Perception of mother
Total adjustment score	.098	.250	.504	.771

For female subjects emotional adjustment and social adjustment scores were correlated quite high with mother perception as nurturant and affectionate. Father perception also was correlated quite well, but evidently father was perceived a bit less nurturant and affectionate in comparison to mother.

In case of male subjects, however, no clear picture emerged. Though correlating between emotional adjustment and father perception was higher than other obtained correlational values for male subjects.

It may be pointed out that to get any clearcut answer to such an complex issue with the present sample would be difficult to accomplish. Here, adults are studied retrospectively by seeking information from them of their parents. There is danger that the information derived will not accurately portray the actual conditions. Inaccuracies can stem from faulty memory, defensive attitudes which lead to distortion of the fact and personal biases.

However, all these difficulties may be overcome by carrying out a depth study in this problem by employing more comprehensive tests and getting data on a larger number of subjects.

The importance of the home environment and the pattern of interaction between the parents and the child for better understanding of personality development and adjustment can be noticed by the large number of studies made in this line. Therefore, though this study remains inconclusive, it definitely throws light for further research with large number of data which the present authors also intend to do.

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PSYCHOLOGY AND PEDAGOGY OF HANDWRITING

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ABSTRACT

In this article the psychological and pedagogical aspects of handwriting are discussed. Experiments on handwriting with different aspects of learning, specially the speed of handwriting, quality of handwriting and also some fact about measurement of handwriting are highlighted in details.

INTRODUCTION

Writing and Reading are two important aspects of our complete language art. Language is the fundamental means of our communication procedure. In the evolution of language, writing and reading are developed simultaneously. In the development of writing some clear stages are involved. First stage begins with the development of writing-through pictures. This is known as the 'ideogram stage'. These ideograms always represented concrete things and were more or less intelligible to every body. The Chinese writing scripts follow this ideogram technique. In this way the Chinese elaborated as many as 40,000 words. Next step is the step of 'phonogram'. Phonogram technique of writing took the place of ideograms to represent sounds instead of things. Alphabetic writings date back about 7000 years.

In modern and developed countries, machine writing is gradually replacing the handwriting. As a result, legible and good handwriting is gradually losing its position in their educational system. But psychologists think that ability to write as well as to read, is an essential aid in promoting child development. It is also required in achieving the broader goals of fundamental education.

Psychological basis of Handwriting

Psychologically, the problem of handwriting consists in the discovery and development of muscular habit. Development of the skill of handwriting is related with the development of motor-ability which in turn is also dependent on the motor-memory of the individual. The establishment of eye-hand-coordination is the essential factor related with the development of hand-writing. Again the ability to establish quickly that is, with the least expenditure of time and energy or the required coordination of eye and hand is dependent on several individual psychological factors.

Psychologists think that the following factors affect the development of writing ability. They are maturation, age, mental age, range of experience,

writing medium and instruments, ability to distinguish visual forms, ability to copy patterns, family environment, parental encouragement and guidance, capacity to adjust and also a desire to learn. The importance of the above factors will be discussed in course of developing this article.

The problem of handwriting is the discovery and development of muscular habits. The ultimate result should culminate in legible, speedy and aesthetic handwriting with the least expenditure of time and energy.

Now let us discuss the above factors one by one.

The legibility of handwriting should be regarded as the most basic quality that a writing should exhibit. Otherwise it can not serve the purpose for which it is meant. Psychologists by analysis and experiments find that the legibility is secured by some conditions. They are the spacing of words, spacing of lines, slant of writing, form and size of letters, regularity of letters and slant.

But only legibility will not serve the whole purpose unless an average speed is maintained. Like legibility, speed of handwriting can be secured by following techniques. The case of movements and rhythm of movements are two essential techniques for securing speed. But the method of holding pens and pencils and placement of papers along with the type of pen and papers are also basic factors. The third factor is the aesthetic appearance. To add beauty to the type of writing several factors can be considered such as form of letters, span between words and regularity of slant and style of writing.

It has been experimentally verified that for legibility in general there should be $\frac{1}{4}$ " space between two words written and slant of writing should be about 45° for the quickest writing; but for average speed 10° to 30° slant can be considered as reasonable.

For speed, the muscular strength of hand and wrist and motor habit are important. Speed is dependent on five types of movements. They are (a) free arm movement, (b) finger movement, (c) wrist movement (d) combined arm with finger and wrist movement and (e) Movements based on 'traction principle' in which arm movement, and the pivotal movement of hand on the wrist and the fingers resting lightly on the pen and touching and gliding over the paper are involved.

Some points on teaching handwriting

There are different methods of teaching handwriting. Broadly they can be classified as (a) traditional method and (b) modern method.

Traditional method of teaching handwriting is based on largely logical considerations, that is, first from simple strokes to complex drawing, then from letters to words and next from words to sentences. First the simple strokes are mastered and as soon as they are mastered, they are combined into letters, syllables, words and phrases. This procedure is called the synthetic method of teaching handwriting. In this method there are three definite stages or periods.

First stage — the Preparatory stage.

The learner should be given first some type of sensory or motor training for a limited period of time. Then he should be directed to trace lines and ovals which are considered to be the elements of letters. It has been found that the learners find easier to draw oval and curved lines than to draw straight lines. So in writing patterns selections should be made as far as possible from the above point.

The second stage is the stage of Copying.

At this stage the learner is to begin writing letters one after another according to some prescribed order. In general he is asked to copy the models from the primer or as presented by the teachers. In course of copying he should follow the movements of hand of the teacher as he writes on the black-board. The learner then by imitation and repetition learns the pattern of letters and ultimately attains the standard.

The third stage is the stage of writing.

At this stage the learner learns to write the words, phrases and sentences. The learner can use copy-book or primer or the model writing of the teacher. Repetition is the technique by which the learner strives to attain the goal. He writes the given lesson again and again and concentrates to unite one portion instead of the whole. Of course this method suffers from some psychological defects. Unless the learner himself gets interested in writing, the mere repetition becomes drudgery.

Madam Montessori, the famous educator and discoverer of Montessori method followed this technique of synthetic method. Montessori method is based on the principle that the movements of hand as followed in actual writing should be taught before they are executed. She did not like to introduce the practice of writing with elements of letters such as strokes, lines and curves. She wanted instead that the pupils should move their fingers on the model letters embossed on a card-board. This the pupil should repeat several times without any actual writing. Before the beginning of actual writing, pupil should learn how to hold the pen and how to place the paper. The pupil should learn how to draw different things. When the pupil showed that he was able to control the pen, then he would begin to trace the letters in a farrow.

Though from psychological point of view, traditional method is subjected to some defects, it has got several important advantages. Firstly, it aims at a high level of competence in hand-writing. The method involves in proceeding from the mastery of simpler to complex elements of writing. Again the steps involved in teaching are so systematic that they can be followed easily by all types of teachers.

But the method suffers from various defects also. A very important point is that the method ignores the principal factor—'the learner'. A person's writing is in final analysis a mark of his personality. By introducing a uniform standard, individual differences are disregarded.

Again psychologists think that letters should not be taught separately, but in relationship to each other. Because the learners do not see any relationship between the exercises and their purpose, they suffer from the loss of initial interest in learning to write. The method does provide little stimulus to creative capacity and personality development.

As the traditional method is unpsychological and fails to provide the need of the learners, we require a new method of teaching handwriting.

There are some accepted principles in teaching handwriting to children. It accepts that the learner is the chief focus of attention and many adjustments are to be made in teaching procedures in recognition of individual differences. Secondly, it recognises a global approach to teaching in preference to part method. In the global method of teaching, initial writing experiences should be based on meaningful elements of language that is words as contrasted with meaningless elements, that is signs, strokes and letters. Again the act of writing should be associated with the expression of ideas, then the learning can attribute a purpose for his work. Teaching of writing should not be considered as an act unrelated to the physical and psychological readiness of the learners. So it is suggested that preliminary training should be provided in promoting writing readiness whenever it is needed.

So modern psychologists think that a sound writing programme may be divided into three stages—

- a) The preparatory stage,
- b) The stage of learning to write, and
- c) The stage of more advanced training

The First stage—preparatory :

The teachers' first problem is to determine the readiness of their pupils to learn to write and provide necessary training that may be needed. The formal teaching of handwriting should not begin immediately. Instead a variety of activities should be planned so that a considerable use of arms and hands can involve. The teacher should observe the pupils when they take part in different activities, determine their efficiency and study the individual differences of the pupils. The type of activities they require for development should also be noted.

The following activities have been suggested by different psychologists and educationists in order to prepare the children for writing.

1. Exercises in cutting and posting : This type of activities can provide the children opportunities of cultivate lightness, precision, and taste.
2. Modelling with clay or with other suitable material such as plasticine or paper pulp : This type of activities can help in developing flexibility and careful fingering.

3. Painting and drawing : The children will enjoy these activities, because they love colour and creativeness. Painting and drawing can impart training in lightness, precision and good taste.

4. Sensory exercises of touch and sight : These activities were recommended by Madam Montessori in her Montessori method of teaching. These will help children in observation of forms.

5. Muscular exercises for the fingers, wrist and fore arms : These exercises will provide the children with necessary training in flexibility and posture.

In addition many schools make use of activities suggested by the Montessori method which more closely approach the movements involved in writing. They include the training of letters in sand and outlining letter-forms by touching with fingers, chalk or pencil. Some countries such as Chile provide copper-plates on which are imprints of letters, numbers, and pictures that the children can trace.

Play and work activities useful in laying the foundation of writing, games and even building with bricks are used in modern infant and kindergarten schools. They are all meant to train children physically, functionally and mentally for writing.

According to some psychologists writing should not be introduced before children are of six years old.

Most of the preparatory activities described above are sensory or motor in nature. At the same time when such activities are practised, a teacher should make informal use of writing in a class room. (a) He may write the names of the pupils on their desks, books or other belongings. (b) He may write the names of the day of the week on the blackboard each morning, together with a list of important things to be done. (c) At times he may also write a letter to a sick pupil as the members of the class decide on the basis of message they want to send him.

In these and other ways pupils learn of the uses of writing and gradually acquire an interest in learning to write. It is important that they should be ready mentally as well as physically before undertaking what is for them a new and a difficult task.

The Second stage—Learning to write :

The aim of the second stage in a handwriting programme is to teach pupils the basic skills in writing and to train them to use these skills for simple functional and creative purposes.

The modern type of writing programme is conceived as an integral part of a complete language arts programme. As such it can be closely related to the other expressive arts—oral and written and can be as intimately related to reading as occasion demands. Today the emphasis may be on oral expression and tomorrow on written expression. At frequent intervals, efforts may be concentrated on the orderly development of the basic handwriting skills or on

improvement of specific aspects of writing. Whatever type of activity is selected for a given day, it should serve requirement that children can find the need for it.

In teaching formal handwriting, teacher should consider several salient points related with this. Firstly, where it is necessary (here in English) print-scripts should be favoured for cursive style. Reason is that the print-scripts are simpler than the cursive style and it is far better adapted to the child's stage of psychological and physiological development. Again print-scripts are learnt more easily than the cursive style. Secondly, tools and equipments needed are of great importance. According to Dottrens, writing by traction which involves arm-movement of the hand on the wrist with the fingers resting lightly on the pen requires brand, soft nibs designed to fit the child's hands and to develop supple fingers. Before they are used, chalk is first employed for exercises on the blackboard. The use of the slate and hard-pencil is not advised on educational as well as health grounds. After chalk, paint brushes, coloured pencils, soft black lead pencils and lastly special nibs (levelled, flat, blunt etc.) are used. The fountain pen, if its nib is flat, soft and blunt, may also be considered suitably. Loose sheets of paper are preferred to note books for young children. Furthermore, unlined paper is recommended by specialists, although lined paper or exercise books are in fact often preferred.

Sand-table is useful for beginning writing exercises. Still better in some respects are sand trays in a suitable part of the playground containing sand to a depth of six inches and boarded with stone. The teacher can trace a letter for the child and the child can then trace the letter several times, following the marks already made. In this way the motor-memory or movement memory of the child would be built up, so that in a short time he will be able to reproduce the letter without assistance. At a later stage the child should trace the same letters on the low wall boards with chalk or crayon.

As soon as pupils have acquired even small amount of skill in writing, they should receive stimulus and guidance in the use of writing. Motive of writing should arise from real needs of recording or expressing ideas. Writing as a means of creative self-expression should be encouraged. In this connection, teachers should provide frequent opportunities for young pupils to present both orally and in writing simple stories, accounts of experiences and simple poems.

The third stage—More advanced training

The change from script to cursive style should take place at the end of second year or about the age of eight. A style of writing with a moderate forward slant is desirable and practice should be made on the writing of material that has meaning to the pupils. Errors of writing should be identified and attention may be focussed upon specific types of difficulties which individual pupils face.

From the third school year, writing should be used more and more widely in study activities. For example, prepare answers to questions in written

form, they prepare brief outline and summaries of what is read, they prepare short reports based on observations, discussions or class activities and they keep records of important facts learned.

Further training in writing should be given in various uses of hand-writing for personal and social purposes. Of course the purpose of hand-writing should be relevant to the age group taught. The instruction should be as realistic as possible. The strictly personal and creative uses of writing should receive considerable emphasis during the stage and the particular stress should be laid upon the value of writing as a means of self-expression.

Experiments on Handwriting

Considerable research has been directed towards the study of handwriting and its different aspects. Much of the more basic available research in hand-writing instruction appears to have been conducted during the second decade of this century. Some reports on hand-writing experiments are described below based on the literatures published recently.

(a) *UNESCO's report of hand-writing and how to improve it*

This report was prepared by S. Gray (1956). The report investigates on functions related with writing and reading. This is to make a concerted attack to improve the literacy on an instructional scale, specially among adults. Formerly, the emphasis was given on form and quality of hand-writing. But at present the H.W. is thought of not only as a communicative tool but also as a means of individualised personal expression. Activities which provide for *perceptual motor coordination* should be encouraged before the child is formally taught to write. A trend is evident in some countries to emphasise the writing of word wholes rather than letters, especially during the phases of initial instruction. It is said that the perception of the word wholes is both easier and more meaningful to the child during the stages of initial instruction of hand-writing than is the corresponding perception of the parts of the words.

Experiments have been conducted especially in U.S.A. regarding different aspects of H.W. Some are the following :—

1. The relative values in the use of vertical versus slanted writing and certain unresolved problems concerning the conditions of practice in hand-writing have been studied.
2. General factor of legibility as the most important objective in hand-writing has been brought under investigation. The factors that were brought out affecting the legibility are letter-formation, slant, and spacing. Letter-formation is the most important factor of legibility. Speed is also a factor but it is least stressed.
3. Individual problems in learning to write including the difficulties encountered by the left-handed child and corresponding adjustments needed in re-

gard to the handwriting position, the type of the paper and position of paper or the writing media and the quality of handwriting instruments also have been studied by the different experimenters.

Studies on the handwriting instruments are very interesting. Investigations show that usefulness of writing instruments can be graded in the following order—as, pencil, fountain pen, ball-point pen, crayon, chalk, steelpen and penholder.

4. *Experiments on manuscript writing and Cursive writing*

Experiments have been conducted on the relative importance of manuscript writing as cursive writing and the following findings are interesting.

There is some evidence that training in manuscript writing may have a positive effect on the quality of cursive writing. (a) Conard and Offerman, working with a limited number of adults, found that adults could readily learn manuscript-writing and the experience in manuscript writing tended to improve the legibility of their cursive writing. (b) Huse conducted an investigation in South African Schools (3000 students) for several number of years. The subject of investigation was “the effects of instruction for a number of years on manuscript writing”. His findings were that students of upper grades who were taught manuscript-writing, displayed better quality cursive handwriting than those who have never been taught manuscript writing. Also those students who made an early transition from manuscript writing to cursive writing displayed better handwriting than those who made a late transition.

5. *Experiments on relative speed of handwriting*

The relative speed of these two styles of handwriting has been studied more intensively than the relative quality. The evidence in general suggests that manuscript writing tends to be written faster in the beginning grades and cursive writing faster in the later grades and at the adult level. The basic research of William H. Gray showed by photographic analysis of the speed of manuscript and cursive handwriting strokes in students at the 5th grade level and in adults and that the manuscript stroke was slower and more and more regular and that it involved more pauses than did cursive writing. Gray attributed the differences in the speed of production of the two kinds of writing to differences in the form of the letters involved. He did not find that the lifting of the pen was in itself an appreciable factor in the rate of production of manuscript writing.

Experiments on Handwriting movement

Handwriting movement as used in the cursive writing of alphabetic letters represents an enormously involved series of perceptual-motor adjustments.

Three aspects of handwriting movements have received particular attention. They are :

- (a) Characteristic of handwriting stroke.
- (b) Determination of comfortable writing position.
- (c) Associated pressure and tension phenomena.

Objective examination of the characteristics of handwriting strokes was made possible by the development of electrical recording devices and the motion picture camera. One of the earliest scientific studies was an investigation of the velocity of handwriting movement of Binet and Courier. These investigations noted that the rate or tempo for drawing along a line was faster than that for a short line ; that for well defined lines, either straight or curved, the stroke is more rapid in the middle, and slower at the beginning and at the end ; that the velocity varies according to the direction of the movement ; that the lines drawn from left to right are more rapid than those from right to left ; and that the velocity is reduced by certain changes in direction of writing. These findings are later confirmed by Freeman and W.H. Gray.

Experiments on measuring the writing speed

Tittel used photographic means to measure the actual writing speed of 25 adults. She secured data by having subjects repeat the same test on consecutive days. By subtracting the amount of time taken for pauses from the total stroke speed, it was found that the average writing stroke in normal writing travelled at a rate of 3.77 centimeters. The average fluctuation in speed of normal writing is found to be 4.8%

Experiments on speed and quality

Freeman suggests that the speed-norms in handwriting are based upon the number of letters written per minute. This figure which ranges from 30 letters per minute in grade II to 80 letters per minute in grade VIII, represent the typical finding of numbers of research studies. A formula for expressing the relationship between quality and speed in a combined handwriting score was developed and validated a number of years ago by Gates is given below. The relationship expressed in a formula in which the combine score equals quality times the cube root of speeds is symbolically represented as $X = Q\sqrt[3]{V}$

Where Q = quality ; V = velocity or speed.

Experiments on quality of handwriting

The quality of handwriting was first attempted to measure by Thorndike. The method was holistic (total) in nature. Thorndike's conceptions of general goodness are merit and it is a composite of such factors as legibility and beauty. Eyris' definition of handwriting-quality in a functional sense is legibility or

readability. Freeman argued that handwriting-scale should be analytical in nature and proposed a set of five scales to measure separately the quality, the characteristics of letter-formation, spacing, uniformity of alignment, quality of line and uniformity of slant.

Although the development of handwriting scales required a clear-cut definition of the characteristics of the quality being measured, the very terms *quality*, *legibility*, *readability* as applied to handwriting lend to resist precise definition. So the quality in respect to handwriting appears to be very complex. For this, further studies are necessary to discover factors connected with the quality of handwriting.

Studies on Learning and Teaching of handwriting

Studies on the above topics include various aspects of handwriting. Some of the important aspects are :—

1. Factors connected with developmental aspects of handwriting.
2. Factor connected with practical conditions of handwriting.
3. The diagnostic evaluation and treatments of individual problems.
4. Race, Sex, intelligence, anatomical age, motor co-ordination and certain perceptual factors and their connections with handwriting.

Studies have been made to find out the effect of racial differences and sex differences on handwriting quality, but no definite results could be obtained. Evidence, however, on the relationship between intelligence and handwriting has relative consistence. Gates found *low but positive correlation* between these factors. Anatomical age has been found to be irrelevant as a determinant of either rate or quality of handwriting. A promising avenue of research in handwriting which might be explored more fully is the child's perception of handwriting task. Preliminary investigations in this area suggest that the children of different ability levels differ significantly in their perception of handwriting task and in their ability to appraise their own handwriting as a basis for further improvement.

Measurement of handwriting

We have already stated about the pioneer work of Thorndike on the construction of handwriting scale. In 1910 Thorndike constructed a 'graphometer' or scale to measure the quality of handwriting. Of course, the device is a crude one, but it is interesting historically. Because it was the first instrument of schooling. The scale consists of samples of handwriting graded from zero (no

merit) to eighteen (the highest merit). The grading was secured by taking the consensus of opinion of a number of competent judges. The samples to be judged are compared directly with the scale and are rated by the number of standard it most closely approximates in merit. Therndike's efforts have been intimated by many workers. Some scales viz. Ayres scales and Freeman's scales can be considered important for several reasons. Generally these scales can be used to measure (a) legibility (or quality) and (b) speed. Freeman's five analytical scales rate handwriting from the standpoints of uniformity of slant, uniformity of alignment, quality of line, letter-formation and spacing.

The use of handwriting scales has demonstrated the futility of securing excessively high degrees of quality at the expense of low rates of speed.

Experience shows that the quality tends to deteriorate as speed increases. The art of teaching handwriting in the higher grades is to secure increase of speed without undue sacrifice of quality.

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C O N T E N T S

	Page
Attitude towards work environment and its relation with personality traits and choice of leisure time activities among a group of executives —Anima Sen and Preeti Kapur	1
Stability of nominee status of adolescent boys and girls —Ramanath Kundu and Chandidas Biswas ..	9
A study of values in the process of social change —Debkumar De	15
The present position of work education programme in the Secondary Schools of West Bengal —Agamoni Lahiri	21
Factors responsible for success in Higher Education in Psychology —Maya Deb	27
Academic learning time model of classroom instruction —Siba P. Bhattacharya	31
Study of alpha-beta press in perceiving reinforced social situation —Subimal Deb	35
Examining the attitude of teachers towards class room teaching in relation to some socio-personal variables —P. Som	39
Guidance for slow learners in schools —S. P. Anand	47
Construction & standardisation of a performance test-battery of general mental ability of the children of age groups 6 to 10 years —S. C. Chakraborty	59

ATTITUDE TOWARDS WORK ENVIRONMENT AND ITS RELATION WITH PERSONALITY TRAITS AND CHOICE OF LEISURE TIME ACTIVITIES AMONG A GROUP OF EXECUTIVES.

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ABSTRACT

The present study investigated the attitude of executives towards his work environment—his relations with superiors and colleagues, the standards for success, self acceptance, the driving force in life, and the traits of dominance, achievement, intraception, order and endurance, and its relation to certain personality traits and choice of leisure time activities. The sentence-completion method was used to assess the executives, attitude towards his work environment. The Edward Personal Preference Scale (EPPS) determined the dominant personality traits and an inventory was prepared to measure the leisure activities. The executives emphasized that effective management was related to qualities in an individual who showed concern for both human relations and productivity. These executives who had certain dominant personality traits (dominance, intraception, endurance, achievement and order) preferred to indulge in leisure activities which were constructive in nature.

INTRODUCTION

The participants in an organization are individuals who have their goals, needs and abilities. As they are striving for self actualization, while behaving as agents for the organization, the nature of human personality therefore is an important component in organizational behaviour. The executive who has a fundamental understanding of the dynamics of human behaviour has the advantageous position in motivating and coordinating the activities of the members of his organization. It is necessary not only to study the personality patterns of the individual but also his attitudes and feelings as related to the job sphere. It is important to assess these attitudes because the rigid and unbent perceptions that particular individuals have towards their organization influence communication, control, management and hence productivity.

An earlier study by Sen and Opal (1980) revealed that executives with the following personality traits (in rank order) Dominance, Intraception, Endurance, Achievement and Order had a preference for certain leisure activities.

ties (in rank order) namely, reading, camping, driving, entertaining people, sight-seeing, clubs, listening to music, out-door sports, arts and crafts/painting and playing with children. In continuation, the aim of the present study is to relate attitude towards work environment with personality traits and leisure time activities for the same group of executives. The areas of the work environment were selected on the basis of previous research work (Upadhaya and Jha, 1980 ; Sutaria, 1979 ; Srivastava, 1978 , Blum and Naylor 1968 ; Arygris 1955 ; Katz et al, 1950). The areas of interest were : 1. Relationship with superiors, 2. Relationship with colleagues, 3. Evaluation of self, 4. The driving force in work, 5. Standards for success in life ; and extent of 6. Dominance, 7. Intrapersonal, 8. Endurance, 9. Order and 10. Achievement.

METHODOLOGY

Sample

39 defence personnel, ranging from the ranks of Lieutenant Colonel to Major General, who were taking a course in Management were taken as subjects for the present study. Their age ranged from 41-54 years. Regarding educational qualification there were 6 post-graduates, 26 graduates and 7 matriculates.

Selection of Tools

The sentence completion method was utilized to assess the executive's relations with his work environment. The sentence completion method is a semi-structured projective technique in which the subject is asked to finish a sentence for which the first word or words is supplied. There were 50 such statements covering the 10 areas of interest.

In order to assess the dominant personality traits the Edwards Personal Preference Scale (1954) was used. Leisure time activities were measured by an inventory prepared by Sen (1976) consisting of 60 items of different possible pursuits.

Data Collection

The following instructions were given for the work environment statements. They were 'Complete each sentence as well as you can. There are no right or wrong answers. Your completed sentences should depend upon how you really feel or think about each item'.

RESULTS AND ANALYSIS

Content analysis was carried out for each of the 50 statements under the categories. The frequency of each trait as mentioned by the executives in the first five categories was found and converted into percentage. Table 1 shows the five categories and the frequency of traits in terms of percentage.

Table 1

Showing the various qualities as mentioned by executives for the five categories (Relationship with Superiors, Relationship with Colleagues, Self-Acceptance, Standards for Success and Driving force in work) in terms of frequency and percentage (N=39).

I. Relationship with Superiors			II. Relationship with colleagues		
	f	%		f	%
Democratic, fair	29	74	Honesty, Loyalty	39	100
Understanding	28	72	Discipline	34	87
Hard-working	24	62	Accomplishes, gets		
Honesty	23	61	work done	28	72
Authority	20	51	Cooperation	15	38
Clarity of orders	19	49	Endurance, hard-work		
Knows his job	12	31	perseverance	28	72
Getting work done	9	23	Cooperation	15	38
Uses modern techniques	7	18	Enthusiastic	12	31
Leadership qualities	6	15	Ability	12	31
Calm	5	13	Efficiency	10	26
Appreciates work	3	8	Shares my views	9	23
Organizational quality	3	8	Intelligent	7	18
Team spirit	3	8	Team-work	6	15
National interest	3	8	Mature	3	8
Decisive	2	5	Flexibility	3	8
Straight forward	1	3	Pleasant, friendly	3	8
Good Pay-master	1	3	Leadership qualities	2	5
			Progressive	2	5
			Calm and collected	1	3

III. Self Acceptance

	f	%
Organizational ability	37	95
Endurance, determination	30	77
Understanding	28	72
Leadership qualities	25	64
Intelligent	20	51
Drive	16	41
Sincerity	15	38
Team-spirit	6	15
Superior	5	13
Qualified	4	10
Discipline	4	10
Devoted	1	3

IV. Standards for Success.

	f	%
Hard-work	24	62
Human relations	11	28
Loyalty	7	18
Achievement	7	18
Honesty	7	18
Sincerity	5	13
Money	2	5
Leadership	1	3

V. Driving Force in Life

	f	%
Hand-work		
Determination	37	95
Achievement	33	85
Success in life	27	71
Sincerity	7	18
Enthusiasm	4	10
Faith in man	3	8
Faith in god	2	5
Conscience	2	5
Wife	1	3
Father	1	3
Concentration	1	3

The remaining 5 categories were scored by assigning the weightages of 5,4,3,2,1, which correspond to different degrees of emphasis placed by an executive regarding the importance of that trait in his work situation. In order to substantiate the findings of the present study correlation coefficients were computed for the 5 dominant personality traits and the corresponding 5 traits as found by the work environment statements. Table, II shows the correlation coefficient between the 5 dominant personality traits of the work environment statements. All the correlations were found to be significant.

Table II

Showing the correlation coefficient between the five dominant personality traits as revealed by the Edward Personal Preference Scale (EPPS) and the five personality traits as revealed by the work environment statements.

1. Dominance	.41**
2. Intraception	.39*
3. Endurance	.35*
4. Order	.50**
5. Achievement	.41**
df=37	**p<.01 *p<.05

DISCUSSION

The present study indicates that the development of good human relations, ambition, planning, achievement and loyalty is essential in industry and business. These executives prefer superiors who are just, if considerate hard-working, sincere, have authority, get one's work done, these being some of the prominent characteristics expected in a superior. Thus emphasizing on a 'production-oriented' and a 'human-oriented' supervisor a theory of effective management known as the Managerial grid by Mouton and Blake (1968) takes the position that the two critical dimensions of effective leadership are, (1) Concern for people, and (2) Concern for production. The present study also reveals that the optimal leader is one who is extremely concerned with both the production and the people who are working for him and with him. The human-oriented aspects of a leader as emphasized by the executives are—just, honest, sincere (61%) fair, judicious (74%) considerate, appreciation of work, calm, understanding (72%) and straight forward. The production-oriented aspects of a leader are—know his work, get work done, leadership qualities, hardworking (62), decisive, have morale, organizational quality, authority (51%), uses modern techniques and clarity of order. Roach (1965) has given the factors as expected of superiors. He also discusses both the human and production aspects as being important traits in an executive,

Even in their relationship with colleagues the executives emphasize on the qualities of honesty, sincerity and loyalty (100%) of the individual's behaviour in an organizational set-up. Having been in the army such a finding is not surprising since loyalty to the battalion, army and finally to the nation is one of the prominent qualities expected in any army officer. The other important qualities is discipline (87%), getting work down (72%), endurance and hardwork (72%). These qualities are similar to the one's expectation in a superior, thus emphasizing on similar qualities for superiors as well as colleagues.

Once again revealing that the personal aspects of an individual as well as the production aspects are important factors in an organization.

The executives not only prefer the characteristics of justice, honesty, organizational quality, discipline and hardwork in their superiors and colleagues but also seem to attribute these qualities in themselves. The qualities as mentioned by them are—organizational ability (91%) hardwork and endurance (77%), tact and understanding (72%) and leadership (64%). Being executives they seem to be confident that the qualities as expected in an executive, namely, he is responsible for seeing that the organizational objectives are carried out. They also serve as example, model for others to simulate. They set the example of perseverance, honesty and loyalty for others to follow. These qualities are also mentioned when asked almost for the driving force in work. The prominent ones being hardwork (95%), achievement (85%), and success in life (71%). Even regarding the standards for success the executives mention hardwork (62%).

The earlier study on executives by Sen and Opal (1980) also revealed the same results regarding dominant personality traits. These findings are further strengthened by the significant correlation coefficient between the personality traits as revealed by two different techniques.

Two related traits are Achievement ($r = .41$, $p < .01$) and Endurance ($r = .35$, $p < .05$). A successful executive is one who has the quality of perseverance to achieve objectives and goals of an organization. The present study's findings are in line with McClelland et. al (1953) who have shown a close relationship between need for achievement and success at management level. The two related findings were, (1) Successful management executives showed a higher need for achievement than did a random national sample of men of the same age and education but in other occupations and (2) Executives showed a higher need for achievement than do other professionals of the same age. McClelland (1953) also identified the trait—the willingness to assume individual responsibility for decision-making. The present findings are in accordance with McClelland's findings. The trait endurance refers to the ability to keep a job till finished, to work for long hours, etc. Thus it is necessary not only to have a high need for achievement but also the perseverance to accomplish difficult tasks.

The three other related traits are Dominance ($r = .41$ $p < .01$), Order ($r = .50$ $p < .01$) and Intrapersonal ($r = .39$ $p < .05$). The importance of dominance in the defence services seems to indicate a particular type of performance, as that of a leader'. (Sen and Opal, 1980). That is, to persuade others to supervise and direct the actions of others. The trait order refers to planning

before starting a task. Thus according to these executives, policy making and planning is essential. Planning is intermediate between the determination of policies and their execution. In this connection the executives make decisions concerning the ways and means of the organizational goals that can be achieved.

However, just meeting the production objectives of the organization is not the only essential trait, for the executives can meet these objectives only by understanding the interpersonal aspects of human relations. Thus the personality trait—intraception ($r = .39$ $p < .05$)—is also an essential aspect in human organization. Sen (1976) also found similar prominent traits in Bank Managers namely dominance, intraception and order.

Thus on the managerial level, the executives emphasize the importance of interpersonal relationship, the necessity of planning and achieving the objectives of the organization. And on the personal level they emphasize upon the following qualities—loyalty, sincerity, discipline, hardwork and democratic leadership. Results also indicate that because of these personality traits the executives prefer to indulge in leisure time activities which are constructive in nature and dislike those activities which do not bring about any achievement (Sen and Opal, 1980). It is worth mentioning that even though two different techniques (questionnaire and projective technique) were employed to measure the personality patterns, a significant correlation was found between the personality traits of the two techniques. This further validates the findings of the present study (where a semi-projective technique was used) that attitude towards the work environment is closely related to personality and leisure time activities.

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STABILITY OF NOMINEE STATUS OF ADOLESCENT BOYS AND GIRLS

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ABSTRACT

The present study was undertaken to investigate the extent to which the adolescent boys and girls of the urban area of Agartala would maintain their nominee status stable over 16 weeks' period and whether the boys and girls would differ significantly in their stability of nominee status. It was observed that the adolescent boys (N=187) and girls (N=218) showed uniformly high stability in nominee status and that there was no significant sex difference in the stability of nominee status.

INTRODUCTION

The adolescence is the period of greatest social interests. The youngsters are on the threshold with accelerated interests that newness of experience brings. It is in this period that "matters relating to social relationships and social adjustment might be expected to be assuming new importance when diverse problems relating to social acceptability being to arise" (Kuhlen and Bretsch, 1947). In this particular developmental stage the classroom groups offer the individual an atmosphere in which he tries out himself to make efforts to exert power, finds security, seek acceptance of others and establishes social relationship. The peer group offers the youngsters to socialize in a climate where the values that count are set by their age mates (Horrocks and Benimoff, 1966) and they learn social adjustment. The extent to which an individual gains social acceptance and the extent to which he is able to maintain his nominee status in the peer group stable provide evidences of his social adjustment.

The purpose of the present investigation is to ascertain to what extent the adolescents maintain relative stability of their nominee status over 16 weeks' period.

METHOD

Tool used : A three-choice friendship criterion Sociometric Questionnaire was developed in Bengali (Biswas, 1977). The questionnaire was composed of a single question : "Write three names of your most intimate friends of your class in order of preference in the space below."

Sample : Samples were drawn from 14 Class VIII Sections of 10 Higher Secondary Schools of the urban areas of Agartala, the capital of Tripura. The data had been collected twice at an interval of 16 Weeks (as mentioned later under the heading "Procedure") from the same group of subjects. The number of students found to be present on both the occasions was 405, of which 187 were boys and 218 girls.

Ages of the boys ranged from 12 years through 16 years, with mean age of 13.70 and standard deviation of 1.27 ; and those of the girls ranged from 11 years through 15 years, with mean age of 12.82 and standard deviation of 1.03. The mean age of the combined sample was 13.22 and standard deviation of 1.16. These statistics are presented in Table 1.

Table 1

Distribution of age and sex of the sample

Age	Boys	Girls	Combined
11	0	16	16
12	29	74	103
13	55	77	132
14	61	35	96
15	28	16	44
16	14	0	14
Total	187	218	405
Mean	13.70	12.82	13.22
S.D.	1.27	1.03	1.16

Procedure

The Sociometric Questionnaire was administered twice on the same group of subjects at an interval of 16 weeks to ascertain the nominee status of the subjects. First test was conducted early in the month of February, that is, one month's time after the commencement of the academic session was allowed to enable the subjects to settle down in a new set-up.

Retest was made early in the month of June, i.e., at an interval of 16 weeks after the first test to ascertain the stability of nominee status of the same subjects. Such a time interval was given under the assumption that it would not permit either too short or too prolonged interaction between the group members.

RESULTS AND DISCUSSION

Critical raw status scores of the subjects were determined by unweighted scoring method, as very little difference was observed between weighted and unweighted sociometric scoring (Kundu and Biswas, 1980). On the basis of the raw status scores individual subject's nominee status was determined according to Bronfenbrenner's Constant Frame of Reference (1945). The subjects were then categorized into five nominee status groups, viz., popular, above average, average, below average and isolate.

The stability of nominee status of the subjects was determined by comparing their relative position on the sociometric choice status continuum using the undernoted formula, as proposed by Gronlund (1955) :

$$\text{Stability of Choice} = \frac{2 \times \text{No. of Agreement}}{\text{No. in Category (Test 1)} + \text{No. in Category (Test 2)}}$$

The results, expressed in terms of percentages, as shown in Table 2, revealed that the boys belonging to age level 16 years, and the girls belonging to age level 15 years showed least stability in their nominee status (38.46% and 35.30% for boys and girls respectively), while the subjects belonging to other age levels showed more or less uniformly high stability (except the girls of the age level 12 years showed maximum stability—percentage of agreement 62.16). The low stability of the boys and girls of the age levels 16 years and 11 years respectively might be due to so many factors, like—minimum number of class-mates of equal age level, changing pattern of choice process, want of opportunity for social interaction in the peer group, etc. Moreover, the least stability in nominee status of the boys belonging to age level 16 years may be due to the fact that they are too matured in the group and possibly they do not get proper opportunity for social interaction with their class-mates of younger age levels. Similarly, the girls of the age level 11 years are too young or prematured to get free social interaction with their class-mates of older age levels.

Table 2

Percentage of stability of nominee status of different age levels

AGE	Percentage of agreement	
	Boys	Girls
11	—	35.30
12	35.17	62.16
13	52.72	50.00
14	54.84	54.28
15	50.00	56.25
16	38.46	—
Total	52.40	54.13

In order to determine the significance of differences in the percentages of agreement between each of the different age levels Chi-Square Test was made from a four fold table, using the undernoted formula :

$$X^2 = \frac{N (BC - AD)^2}{(A + B) (C + D) (A + C) (B + D)}$$

The chi-squares, thus computed, revealed that the boys of different age levels did not show significant difference between the percentages of agreement (Table 3). While, in the girls group, the percentage of agreement between the age levels 11 years and 12 years differed significantly beyond .05 level ($X^2 = 4.0749$). The chi-squares between each of the other age levels, however, was not found to be significant (Table 4).

Table 3

Chi Square Test for significance of differences between percentages of agreement of different age levels—Boys.

Age	13	14	15	16
12	.0456	.0009	.1528	1.0026
13		.0522	.0552	.8559
14			.1814	1.1548
15				.4752

Table 4

Chi-Square Test for significance of differences between percentages of agreement of different age levels—Girls.

Age	12	13	14	15
11	4.0749*	1.2052	1.6532	1.4599
12		2.2907	.6123	.1934
13			.1761	.2066
14				.0171

* Significant beyond .05 level.

The difference in percentage of agreement between the girls of the age levels 11 years and 12 years was due to the fact that the subjects of 11 years age level showed least stability in nominee status, while those belonging to 12 years age level showed highest stability (Table 2).

However, Chi-Square Test did not signify any difference in percentages of agreement between boys and girls of the same age levels and between the total sample of boys and girls (Table 5).

Table 5

Chi-Square Test for significance of differences between percentages of agreements of boys and girls of the same age levels and of the total sample of boys and girls.

Age	12	13	14	15	Total
X ²	.4248	.0949	.0276	.1594	.1193

CONCLUSIONS

The findings of the present study signify that there is not much fluctuation in the nominee status of the adolescent boys and girls over a period of 16 weeks and there is no significant difference in the stability of nominee status between the adolescent boys and girls.

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A STUDY OF VALUES IN THE PROCESS OF SOCIAL CHANGE

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ABSTRACT

Values, social values in particular, are still conserved and transmitted by the family from one generation to another in India. And it is still supposed that family is the most effective agency in inculcating values in children. The responsibilities can be well discharged if there is a climate of solidarity in the family. Recent studies reveal that there is a significant deterioration of values of school going children in West Bengal. So the present researcher intended to investigate how far family solidarity in relation to values was disturbed. For this study one hundred students' (32 of std. IX, 34 of std. VII and 34 of std. V) families were chosen as the sample. Two standardised value tests, one for children and the other for adults, were used in this study. It is evident that the boys of the age-group covered in this study did not have a significant influence of the value-pattern of their fathers and mothers in the process of the formation of their own set of values. A very unsatisfactory degree of husband—wife relationship was observed. To conclude briefly, the Indian families particularly families in the old industrial belt are changing fast.

INTRODUCTION

Social change is the significant alteration of social structure (that is, of pattern of social action and interaction) including consequences and manifestations of such structures embodied in norms (rules of conduct), values and cultural products and symbols (Sills 1972). Thus values also have a very significant role in the process of social change. Values, social values in particular, are still conserved and transmitted by the family from one generation to another in India, as the very nature of the Indian Society is family centric.

Family is the nucleus of the society and if there is any change in the value pattern of the Society, it will obviously influence the same of the family also. In the same way the value pattern of different families also convey the nature of the value pattern of a particular community to which the families belong.

Families, as the first human agency new generations encounter, are charged with the primary responsibilities of socialisation (Koller, 1974). And it is still supposed to be the most effective agency in inculcating values in children (Mussen 1969). The responsibilities of the family can be well discharged if there is a climate of solidarity in the family. This solidarity or systematic cohesion, also requires an effective system of norms which in turn will be justified or rationalized by common values. (Sills, 1972).

Some recent studies on values of school going children in West Bengal reveal that there is a significant deterioration of values (Buch 1979). This sort of deviation must deserve attention in the context of social change as 'values.....are the determiners in man that influence his choice in life and thus decide his behaviour.' (Inlow 1972). Of course, there is a number of factors which cause such change but the present researcher intends to investigate how far family solidarity in relation to values has been disturbed. So it is worthwhile to investigate the degree of relationship between the values of children and those of their parents and once again, between the values of the children's fathers and those of their mothers.

METHOD

Sample : For this study one hundred Students' (32 of std. IX, 34 of std. VII and 34 of std. V) families of an old industrial belt in West Bengal had been taken as the sample. All the families belonged to middle income group.

Tools used : Two standardised value tests, one for children and the other for adults, were used in this study. The first one was constructed in the technique of a questionnaire and the other was constructed on the basis of forced-choice technique. The test items of both the tests covered seven values viz. Dutifulness, Sincerity, Co-operation, Conformity to Rules, Honesty, Loyalty and Respect to Seniors.

Reliability coefficients of the value test for children have been found to be between .46 and .95 and the validity coefficients of the same have been found to be between .29 and .94. Reliability co-efficients of the value test for adults have been found to be between .46 and .71. Validity of the test has been estimated by judgements.

ANALYSIS AND INTERPRETATION

The value test for children was administered on the cross section of the sample chosen and the value test for adults was administered on their respective parents.

Table 1

Co-efficients of correlation between scores of the seven values of the fathers and those of their sons and the mothers and those of their sons.

Relational statistics	Values						
	D	S	C	K	H	L	R
Co-efficients of correlation							
(a) between fathers and sons	.07	-.06	-.06	-.05	-.01	-.02	.05
(b) between mothers and sons	-.01	-.01	.07	-.01	.02	-.06	-.03

From the above Table 1 it was apparent that there was no significant relation between the values of fathers and mothers with those of their children. Since the findings were not in line with the popular notions and also with speculative rational thinking in this respect; it was considered worthwhile to continue the analytical study to a further extent.

The sample was divided into two groups, i.e. a group consisting of classes V and VII and another group consisting of boys of class IX only. This was done with a view to trace if any significant parental influence emerged from this splitting of the sample, for it might have been the case that the junior group with a comparable stability of values (Buch 1979) had a cognizable parental influence. The findings are reproduced in the following tables.

Table 2

Co-efficients of correlation between scores of the seven values of the fathers and those of their sons and the mothers and those of their sons, (std. IX. N=32).

Relational statistics	Values						
	D	S	C	K	H	L	R
Co-efficients of correlation							
(a) between fathers and sons	.21	-.09	.00	-.04	.26	-.03	.13
(b) between mothers and sons	-.02	-.05	-.11	-.06	-.01	-.02	.02

Table 3

Coefficients of correlation between scores of the seven values of the fathers and those of their sons and the mothers and those of their sons, (stds. V & VII, N=68)

Relational statistics	Values						
	D	S	C	K	K	L	R
Co-efficients of correlation							
(a) between fathers and sons	.23	.13	-.07	.16	.11	.13	-.01
(b) between mothers and sons	.08	-.09	.15	-.13	-.03	-.15	-.01

It is evident from above, that co-efficients of correlation of both are not significant either in the case between fathers and sons or in the case between mothers and sons.

In order to assess the validity of these results which are against the popular belief, it was considered worthwhile to investigate if any relation existed between the hierarchy of values of parents with those of their children. For it might be argued that in spite of the meagre relationship of values in degree between parents and children there might be some resemblance in the pattern of values between them. To make the study more analytical and fruitful both the groups (V + VII and IX) were divided into two sub groups on the basis of the degree of values present in them. For this purpose the total of the raw

Table 4

Coefficients of correlation between the means of the seven values of the fathers and those of their sons and the mothers and those of their sons

Relational statistics	Std. IX		Stds. V and VII	
	Upper Group N=16	Lower Group N=16	Upper Group N=34	Lower Group N=34
Co-efficients of correlation				
(a) between fathers and sons	.13	.42	.03	-.21
(b) between mothers and sons	.14	.29	-.03	-.46

The data as in Table 4 revealed absence of any relationship.

scores were arranged according to the order of their magnitude and by medium splitting they were sub divided into four groups viz. two for each group. Then the mean scores of seven values for each of the groups were correlated according to the method of rank difference correlation with the corresponding mean scores of their fathers and mothers separately. The results are reproduced in Table 4

Next to this Coefficients of correlation were estimated in regard to seven values between the fathers and the mothers of the students drawn for the study and recorded in the following table.

Table 5

Co-efficients of correlation between scores of fathers and mothers on value test. (N=100)

Relational statistics	Values						
	D	S	C	K	H	L	R
Co-efficients of correlation	.31	.29	.46	.53	.32	.44	.55

The table shows a very unsatisfactory degree of correlation between fathers' and mothers' set of values in spite of the fact that they generally belonged to the same social stratum, economic class, identical cultural pattern and the like.

So it is evident that the boys of the age groups covered in the investigation did not have a significant influence on the value pattern of their fathers and mothers in the process of the formation of their own set of values. Families in the Western Society do not play the role which they are expected to play in ours. Indian Society from the time immemorial is a family oriented society. The family with its deep emotional relationship between its members has always been the place for the development of personality of the young ones. The Educational Institutions, Clubs, etc. do not exert much influence in this field. The failure of the family in developing the personality and value system for young children as evident from the above findings is very uncommon to our society. A very unsatisfactory degree of husband—wife relationship regarding values will also accentuate the failure of the family's role in discharging the responsibilities of socialisation of its children.

CONCLUSION

To conclude briefly, the Indian families particularly families in the old industrial belt, are changing fast. But whether this change in relation to value is an acceleration or retardation from the angle of social progress is a point of discussion for the sociologists of this era.

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THE PRESENT POSITION OF WORK EDUCATION PROGRAMME IN THE SECONDARY SCHOOLS OF WEST-BENGAL

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ABSTRACT

The paper dwells on the academic efficacy of work-education programme as enforced in the present secondary education system in West Bengal. The investigation was carried on with a questionnaire and a sample of 132 schools selected both from rural and urban areas being spread over the different districts of West Bengal. The analysis exposed the fact that the type of work-education project selected in a particular area was to a great extent dependent on the location, resources of the school concerned and the socio-economic status of the students involved in the study envisaged.

INTRODUCTION

In the report of Kothari Commission entitled as 'Education and National Development' (1964-66) it has been suggested that 'Work-experience' should be an integral part of general education. The Commission, therefore, recommends for its inclusion in the new structural pattern of Secondary Education (i.e 10 plus 2). Work-experience is defined as "participation in productive work in School, in the home, in a workshop, on a farm, in a factory or in any other productive situation." (Kothari Commission, 1964-66). Three dimensions of 'Work-experience' have been pointed out in this connection and they are : (a) Exploration of the World ; (b) Experimentation with materials, tools and techniques in the form of production of goods and service activities ; (c) Work practice related to production of goods and services performed with the School and outside it.

The major objectives of 'Work-experience' as indicated in the Report of the Commission are—(i) to acquaint the Children with the World of work and the productive occupations going on in the community ; (ii) to promote respectful attitude in children towards community service (iii) to provide opportunities for creative self-expression ; (iv) to develop in them an awareness of social problems and a positive attitude towards team work ; (v) to inculcate in them some socially desirable values like self-reliance, dignity of labour, tolerance, co-operation and sympathy.

The West Bengal Board of Secondary Education introduced the 'Work-experience' programme in the name of 'Work-education' and included in its

curriculum as a compulsory subject in 1974. In the literature published by the Board from time to time it is noted that "A work-education project should be production oriented, i.e. products should be socially useful articles. It is a well-planned organised unit of socially useful activity, the execution of which involves a range of skills as well as intelligent understanding of the materials and processes involved with an ample scope for the development of attitudes, values and work-habits including group interaction and having manifold potentialities for the integration with allied curricular subjects". (Education circular, 1978).

The West Bengal Board of Secondary Education suggests in this connection as many as seven areas of educational projects namely—(i) Agriculture, (ii) Textile, (iii) Home Science, (iv) Business Management, (v) Cottage Industry, (vi) Repairing Job, and (vii) Articles of everyday use.

The detailed pattern of work under each of the seven areas may be noted as follows :

- (i) Agriculture : Kitchen garden, Horticulture, Agriculture, Pisciculture, Poultry Farming, Sericulture ; Bee-keeping.
- (ii) Textile : Spinning, weaving & dying, Needle work & Tailoring, Fabric Printing, Batik Printing, Block Printing, Tie and Dye.
- (iii) Home Science : Cooking & Catering, Preservation of Fruits ; Simple Garment Making, House Decoration.
- (iv) Business Management : School Co-operative, Book Bank, Savings Bank, Management of School Canteen.
- (v) Cottage Industry : Hand-made Paper, Village Pottery, Carpentry, Blacksmithy, Book-Binding & Card board work, Cane and Bamboo Work, Matmaking, Doormat, Jute Bag, Cloth Bag and Lather Bag.
- (vi) Repairing Jobs : Electrical Gadgets, Agricultural Tools, Cycle, Scientific Apparatus and Geographical Appliances and other Teaching Aids, Tube-well, Stoves, Cookers, Furniture, other house-hold goods.
- (vii) Articles of everyday use : Detergent Powder, Candle Stick, Chalk-stick, Incense stick, Fountain Pen Ink, Distilled-water, Paper Packet, Sand paper, Envelope, Soap, Phenyl, Photo farming.

A school may introduce as many as socially useful projects as possible in classes IX and X, but evaluation in Work-education at the Final Examination is concentrated on two educational projects.

Since the introduction of Work-education as a compulsory subject in Madhyamik Curriculum in West Bengal, it is coming to the fore-front of our educational discussions and conferences. Whether it serves the purpose and fulfils the requisite objectives for which it is intended is really a much-debated and controversial issue. In fact it has not been accepted by the people at large with an agreeable feeling. The general opinion over the utility of work-education programme varies from one extreme to the opposite extreme, that is from the most unfavourable to the most favourable. Being interested in the issue the present investigation was undertaken in the form of a sample survey for studying the present position of work-education programme as it is being conducted in Secondary Schools of West Bengal. The present study is, therefore, designed with following purposes.

- 1) To ascertain the board areas of work-education project together with the detailed pattern of work, undertaken by different schools of West Bengal.
- 2) To consider the facilities afforded by the Schools in respect of financial assistance, adequate accommodation instructional guidance and allotment of time needed for the purpose.

METHOD

Sample

The information as relevant to the study was collected from Madhyamik schools both in rural and urban areas spread over the different districts of West Bengal—Calcutta, 24 Parganas, Howrah, Midnapur, Burdwan, Nadia, Hooghly, Birbhum and Murshidabad. The total number of schools thus visited were 132 of which 59 were Boys', 62 Girls' and 11 co-educational Institutions. These schools were classified in three grades noted as A, B and C denoting superior type, average type and below average type in respect of their achievement standard, accommodation and other resources. The medium of instruction was mostly Bengali in all these institutions.

Tool used

A questionnaire was designed to secure adequate factual data concerning work-education. It was centred round the detailed pattern of work undertaken by different schools together with facilities, equipments and instructional guidance offered to the students.

Procedure

All the schools under study were visited, and the general atmosphere prevailing there for carrying on the work-education programme was carefully

noted. The 'work-education' teacher or teachers, the Heads of institutions as well as the students were also interviewed. The questionnaires were properly filled in with the responses of the teachers and the learners.

RESULTS AND DISCUSSION

Analysis of the responses as noted is shown in Table I.

Table I

BROAD TYPES OF WORK UNDERTAKEN BY SCHOOLS OF DIFFERENT DISTRICTS

Place	Agriculture	Textile	Home Science	Business Management	Cottage Industries	Repairing Job	Articles of Every day Use
Calcutta							
No. of Schools-46	1	40	16	1	58	X	98
24 Parganas							
No. of Schools-26	6	29	10	1	49	1	28
Midnapore							
No. of Schools-13	4	9	7	1	7	1	22
Burdwan							
No. of Schools-9	X	7	4	X	19	1	16
Howrah							
No. of Schools-10	3	10	1	X	11	X	13
Hooghly							
No. of Schools-6	X	3	4	X	6	X	18
Birbhum							
No. of Schools-7	5	8	3	X	4	X	6
Nadia							
No. of Schools-3	X	1	3	1	5	X	5
Murshidabad							
No. of Schools-8	X	5	5	2	5	X	3
Bankura							
No. of Schools-4	1	2	2	X	4	X	13
Total	20	114	55	6	168	3	222

From the findings indicated above it appears to be more or less an established fact that the type of 'Work Education' project selected in a particular area is to a great extent dependent on the location, and resources of the school

as well as on the Social-economic status of the students. For instance agricultural projects are largely adopted in Schools of rural areas. Only one out of forty schools visited in Calcutta, is conducting 'Kitchen Garden' work that falls under the category of Agriculture. Whereas in case of Textile, Cottage industry and 'preparing articles of every day use' the picture is entirely different. The various items under these categories are largely selected by Schools of Calcutta.

Out of 132 Schools visited in rural and urban areas, one school in the District of Birbhum is carrying on 'Pisci Culture'. Bee-keeping is adopted in two Schools, (one in Midnapore and one in the district of 24 Parganas). In like manner spinning has been introduced by two schools (one in Midnapore and the other in Calcutta) and weaving has been selected by two schools (one in Midnapore and other in Birbhum).

'Blacksmithy' and Carpentry' which fall under the category of Cottage Industry have been exclusively adopted in Boys' schools and similarly needle work and Knitting have been selected only in Girls' Schools.

Varieties of projects have been introduced only in a few schools of rural and urban areas which are fully equipped with Science Laboratory and Technical Workshop.

In most of the schools, especially in rural areas, there is shortage of raw materials, lack of proper accommodation for smooth functioning of such work-education projects.

There is also dearth of properly trained teachers for guiding work education project and there are wide variations in respect of the specialised qualification of 'Work Education' teachers.

It is also reported that kitchen garden project can not be introduced in the rural areas not for lack of vacant land but for some other practical difficulties encountered in the school situation. The two long vacations (one in Summer and other in Puja) stand in the way of continual care needed for the proper maintenance of the garden.

Concluding Remarks

So far as it is known, no similar study is reported to have been conducted in West Bengal since its introduction in the Madhyamick curriculum. It can not be confidently stated that the findings arrived at from the present survey work will maintain their character if larger and larger number of schools are taken into consideration. But one significant feature seems to

stand out more or less clearly that the West Bengal Board has started implementation of work education programme a little bit hastily. Any way further investigation is necessary for studying the effectiveness of such an educational programme for which emphasis is laid in other progressive countries.

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FACTORS RESPONSIBLE FOR SUCCESS IN HIGHER EDUCATION IN PSYCHOLOGY

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ABSTRACT

A factor analytical study was made to identify the elements underlying the student's success in postgraduate courses of Psychology. For this purpose scores of a psychometric test, viz., Differential Aptitude Tests (DAT) for 190 postgraduate students of the Department of Psychology were used. M.A./M.Sc results were taken as criteria.

A 7 X 7 intercorrelation matrix with 7 significant tests of DAT was formed and Thurstone's Centroid Method of factor-analysis was employed. Two factors emerged as the basic elements related to student's success in the said course. Those two factors were identified as 1) Language ability and 2) Reasoning ability.

INTRODUCTION

In India many psychometric tests have been developed and are used for assessing the abilities and aptitudes of the educands. Since the age of great educators all educationists acknowledged that education should conform with the abilities and aptitude of the educands, besides other factors like demand of the society, country etc.

Researches are going on to refine the measuring tools of the abilities, DATs are one among such tools. Some work has been done by Puhan (1978) and Puhan & Misra (1979) in India. But no attempt seems to have been made with these tests to identify the basic elements required for following any particular vocation or educational course.

The author has earlier attempted to determine the predictive capacity of these tests with respect to success in higher education in Psychology (Deb, 1980). But question may arise what are these underlying factors behind the success in the above mentioned area. So in quest of the answer to that question, the present investigation has been undertaken.

METHOD

Sample

190 postgraduate students of M.A./M.Sc classes of the Department of Psychology, Calcutta University, during the academic years 1972-1979 constituted the sample. Their ages ranged between 20 years to 22 years.

Instrument

Differential Aptitude Tests developed by Bennett, Seashore and Wesman (1966) were used. It contains the following tests :— Verbal Reasoning, Numerical Ability, Abstract Reasoning, Mechanical Reasoning, Space Relations, Language Usage (Part I & Part II) and Clerical Speed & Accuracy Tests.

Procedure

Data were collected from the students when they were admitted to the first year postgraduate class. Then after one year their examination results were recorded from the University. Correlations between their examination results (which was taken as criteria of success) and the scores of DATs were computed. It was found that except one (Clerical Speed & Accuracy test) all other seven tests had positive and significant correlations with the criterion.

Inter-correlations among the seven sets of scores were then computed by Pearson's Product Moment method, and put into a correlation matrix (Table I).

Table I

Correlation Matrix together with the Residual Matrix

Variables	1	2	3	4	5	6	7
1. Verbal Reasoning	—	.463	.505	.488	.465	.540	.467
2. Numerical Ability	-.048	—	.517	.263	.415	.310	.440
3. Abstract Reasoning	-.031	.099	—	.355	.434	.323	.413
4. Mechanical Reasoning	.028	-.097	-.024	—	.352	.314	.377
5. Space Relations	-.022	.035	.036	.009	—	.272	.387
6. Language Usage (Part I)	.039	-.082	-.087	-.039	-.101	—	.094*
7. Language Usage (Part II)	.040	-.031	-.080	-.047	-.062	1.094	—

All correlations are significant at .01 level except*—0.094. Residuals are put below the diagonal and correlations above. Residuals after the removal of the first factor are given.

Thurstone's (1947) Centroid method was employed for extracting the factors. Highest value from each column of the correlation matrix have been taken as the communalities. Factors were extracted using Guilford's method of computation (Guilford, 1954). Using Humphrey's rule (Fruchter, 1954) the completeness of the factor extraction was tested. Factor extraction was stopped after the second factor because at that point product of the highest two loadings (Table 2) fell below the critical value of $2/\sqrt{N}$ i.e., .1461 Guilford & Lacey's formula involving the critical value of $1/\sqrt{N}$ i.e., .073 also supported the decision. Very small residuals were obtained after the second factor.

Table 2.

Factor Matrix and Communalities

Factors	Centroid		h^2	Rotated	
	A	B		A'	B'
1.	.809	— .141	.673	.570	.594
2.	.632	+ .412	.559	.013	.753
3.	.662	+ .380	.532	.054	.761
4.	.569	— .027	.324	.344	.490
5.	.602	— .160	.388	.469	.408
6.	.620	+ .069	.339	.347	.554
7.	.746	— .001	.557	.420	.629
% of total variance	44.58	5.19	49.77		
% of common factors variance	89.49	10.51	100.00		

To interpret the factors the Centroid factors were rotated. Orthogonal rotation of the reference axes was done clockwise by 56° . Highest factor loadings (rotated) formed the bases of naming the factors. Table 2 (column A') show that the Verbal Reasoning test had highest loading on Factor A, which accounted for 44.58% of the total variance. So this factor may be called as Language Ability. In the second factor B Numerical Ability & Abstract Reasoning had high loadings (.753 & .761) respectively; this factor accounted for 5.10% of total variance and 10.51% of the common factor variance. From the nature of the items of these two tests the second factor may be named as Reasoning Ability.

CONCLUSION

From the study it may be concluded that two basic elements responsible for success in higher studies in Psychology are Language ability and Reasoning Ability.

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ACADEMIC LEARNING TIME MODEL OF CLASSROOM INSTRUCTION

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ABSTRACT

The Far West Laboratory for Educational Research and Development in San Francisco, California, U.S.A. has empirically tested and developed the Academic Learning Time Model of Classroom Instruction. The Academic Learning Time (ALT) is the accrued engaged time of a student in a particular content area with materials that are of an easy level of difficulty. Theoretically the model is embedded in the works of Carroll (1936), Bloom (1976), Hanischfeger and Wiley (1976) and others. The five teacher activities that maximise the ALT are diagnosis, prescription, presentation, monitoring, and feedback. ALT directly enhances Student Achievement.

INTRODUCTION

The Beginning Teacher Evaluation Study (BTES) carried out by the Far West Laboratory for Educational Research and Development in San Francisco, California U.S.A. in the 1970's has broken a new path in research on Teacher Behaviour and Pupils' Achievement in Elementary School class-rooms. The study has developed, tested and put in operation the Academic Learning Time Model of Class-room Instruction. Until the 1960's research on teaching had not received a great deal of attention. By 1975, however, a number of team and individual research efforts had been completed or were underway. Almost all of these studies were cast in the form of process-product analyses, wherein teacher behaviour and class-room characteristics were observed and subsequently related to measures of student achievement and attitudes. Correlation was frequently used statistics in these studies. The BTES hypothesized that the acquisition of knowledge in the class-room is best conceived as a multi-year process (Fisher and Berliner, 1977). Thus experimental designs that reflect the process-product framework often suffer from problems of ecological validity (Bracht and Glass, 1968).

SIMPLE MODIFICATION OF PROCESS-PRODUCT APPROACH

Researchers on the BTES have proposed a simple modification of the process-product approach to the study of class-room learning. The link between teacher behaviour and student achievement is the ongoing student

behaviour in the class-room learning situation. The variable used in the research is the accrued engaged time of a student in a particular content area with materials that are of an easy level of difficulty. This complex variable is called the Academic Learning Time (ALT). This Variable of ALT, which is measured in real time, has some roots in the work of Carroll (1963), Bloom (1976), Hanichfeger and Wiley (1976) and others. The investigations of the relations of ALT to teacher behaviour and to student achievement requires a change to be made in the process-product research paradigm. This modification may be schematized as in Figure 1.

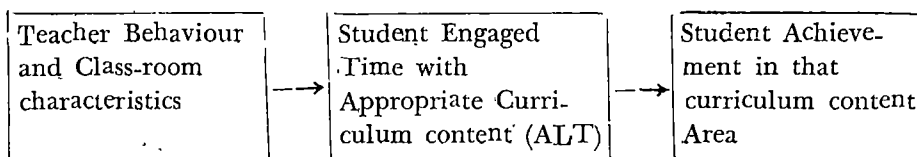


Figure 1. Simple Flow of Events that Influences Achievement in a particular curriculum content area.

The thesis of the BTES is that the marked variability in ALT, between and within classes, is the most potent explanatory variable to account for variability in student achievement, after initial aptitude has been removed as a predictor variable. A corollary to this thesis is that interactive teaching behaviours can only be understood through their effects on ALT. It has been found that teacher behaviour focussed on direct instruction results in longer ALT. Teachers apparently do make a difference, if they act in accordance with some of the common-sense principles that are used by instructional technologists.

The teacher behaviours, focussing on direct instruction in the class-room, has been identified as five major interlinked teaching activities. These five activities maximise ALT. The link between the activities and the activities with ALT is schematised as in Figure 2.

Thus the teacher behaviours that influence student learning have been conceptualized as serving five interrelated functions. These are diagnosis, prescription, presentation, monitoring, and feedback. These functions are broadly of two categories, planning and interaction; and these functions occur through time in a cyclical fashion as shown in Figure 2.

As is explicit from Figure 2, Academic Learning Time Model of Class-room Instruction is developed in the Beginning Teacher Evaluation Study. The major component of the ALT is the class-room allocation of time from both the teacher and student standpoints. Studying the time variable has led the BTES

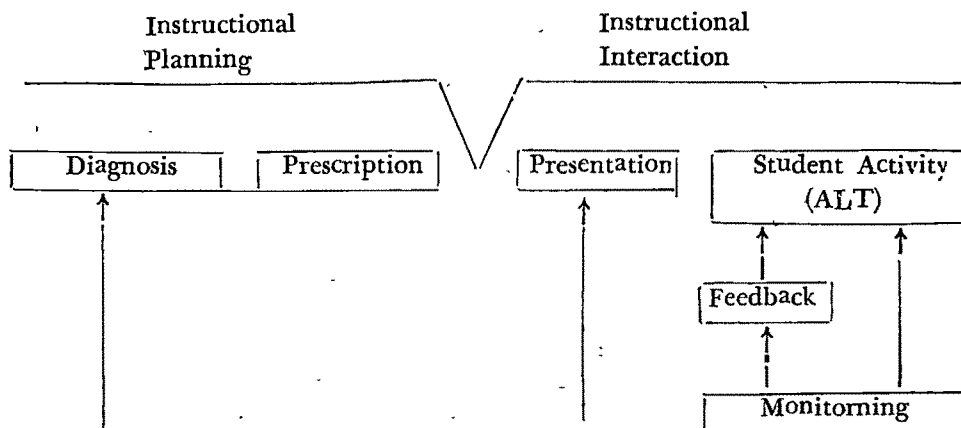


Figure 2. Instructional Functions in the Academic Learning Time Model of Class-room Instruction.

researchers to observe class-room allocation of time of a teacher. Typically, a teacher in the primary grade allocates 50-100 minutes a day to reading and 30-50 minutes to mathematics. From the analysis of teaching protocols taken in the classes of more-and less-effective teachers, it has been found that teachers become fixed by their time allocation, starting and ending lessons by clock rather than on the basis of the cyclical functions of the ALT model. Thus when teachers rush students for any reason, skipping one or more functions of the model, they appear to be less effective in helping students achieve in academic areas (Tikunoff, Berliner and Rist, 1975). Immature learners cannot thrive when disjointed lessons occur within a given instructional period. The ALT is synonymous with engagement, attention, and on-task behaviour. Everytime a student is apparently on-task during a teacher's allocated time for a lesson, increase in learning takes place. Even slight increase in ALT would appear to be logically related to increased student acquisition of knowledge. Empirical data from many sources is accumulating to support this proposition (Bloom, 1976).

CONCLUSION

It may be concluded, on the basis of the BTES research, that at the primary grades, more academic knowledge is acquired by students in classes where (a) the schools and teachers have allocated more time for academic instruction; (b) the time used for lessons is continuous rather than disjointed; (c) teachers are actively oriented rather than bound by clock as a guide for the length of the lesson; and (d) students are actively involved in instructional episode so that differences between the teachers' and students' allocation of time are minimized.

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STUDY OF ALPHA-BETA PRESS IN PERCEIVING REINFORCED SOCIAL SITUATION

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ABSTRACT

Just as the concept of 'need' represents the significant determinants of behaviour within the person, so the concept of 'press' represents the effective or significant determinants of behaviour in the environment. It is important to distinguish between the significance (beta press) and the properties of those environmental objects as objective inquiry discloses them (alpha press). By representing 15 social situations of 3 environments pictorially the press conditions were reinforced by masking and a limen value of beta through alpha press was obtained. Final analysis showed that there was no general pattern of alpha-beta press arousal and the social environment played insignificantly compared to cognitive details of the reinforcer.

INTRODUCTION

It is important to distinguish between the significance of environmental objects as they are perceived or interpreted by the individual (beta press) and the properties of those environmental objects as they exist in reality or as objective inquiry discloses them (alpha press). The individual's behaviour is most closely correlated with the beta press but it is nevertheless important to discover situations in which there is a wide discrepancy between the beta press to which the individual is reacting and the alpha press which actually exists.

Just as the concept of "need" represents the significant determinants of behaviour within the person, so the concept of "press" represents the effective or significant determinants of behaviour in the environment. In simplest term a press is a property or attribute of an environmental object or person which facilitates or impedes the efforts of the individual to reach a given goal. Press is linked to person or objects that have direct implications for the efforts of the individual to satisfy his need strivings. "The press of an object is what it can do to the subject—the power that it has to affect the well-being of the subject in one way or another" (Murray, 1938).

By representing the environment in terms of press the investigator hopes to extract and classify the significant portions of the world in which the individual lives. Clearly we know a great deal more about what an individual

is likely to do if we have a picture not only of his motives or directional tendencies but also a picture of the way in which he views or interprets his environment. It is this later function which the press concepts are designed to fulfil.

PROCEDURE

Fifteen pictures were taken from the newspaper and other periodicals. These were divided into three environments, viz. primarily ceremonial, primarily rural and primarily urban. Each environment contained five pictures. The pictures were of quite obvious type, say a ceremonial situation like 'Durga Puja', where couple of worshipers are seen with folded hands, the drummer engaged in drum beating with his accompaniments, the priest offering flowers to the Goddess Durga etc. The subject was to perceive the stimulus picture as to what the environment was and to give reasons as to why it was said to be so. He was to find out as many cues that helped him construing the meaning of the environment in the picture as that.

In the next phase those impending cues were masked in the picture and press situations were created. When all the cues of one were masked, it was the beta press. By gradual withdrawal of masking the limen of beta to alpha press was determined for each environmental picture.

There were fifty college students who acted as subject.

RESULTS

The mean number of cues that helped arousal of beta press in the subject had been determined for each picture of the three environments. Table—1 would show how many maskings did lead one social stimulus into a beta press and consequently with the release of how many maskings the alpha press reappeared. Being judged by 10 experts the maximum number of cues that could constitute a picture meaningful is given in bracket against stimulus picture in table-1.

DISCUSSION

Since the three environments are independent interaction between inter and intra-environment in respect of limen of beta press appearance and beta press dissipation and alpha press reappearance was presupposed to be existent. But a chi-square test did not support the hypothesis. On the other hand from the same it may be accepted that the external social environment do not come up at all important than the immediate perceptive cues of a reinforced social situation. Therefore how many maskings would lead to a beta press is not dependent on maximum number of cues that constituted the

Table 1

Shows mean cues responsible for beta press and limen value of beta to alpha press : environmentwise.

Environment	Stimulus picture	Mean No. of cues to arouse Beta press	Mean No. of cues at which reappear Alpha press.	Item
Ceremonial (C)	Durga Puja (8)	5	3	2
	Holi (5)	5	2	3
	Moharrum (5)	5	2	3
	Son-in-laws' days (4)	3	2	1
	Rathajatra (5)	3	2	1
Rural (R)	Village market (10)	8	6	2
	Mother hoasting sons with food (5)	4	2	2
	Villager lifting child through window in a crowded train compartment (8)	6	5	1
	Pond used by all sorts of commuters (8)	6	3	3
	Village girl with a hard of cow in the field (5)	4	2	2
Urban (U)	A meeting of employees (4)	3	3	—
	A Footpath dweller with assorted usefals (8)	4	3	1
	Busy Airport (6)	5	4	1
	Drawing room of a posh family (6)	5	2	3
	A soccer match in the backdrop of a stadium (8)	6	5	1

perceived situation. While there are 8 to 10 cues that could be responsible for meaningful perceptions of a reinforced social situation and only 5 to 6 of those need to be masked for beta press arousal. At the same time out of 4 to 5 total cues need for masking are not proportionately higher or lower. For

example there is a reinforcement where all the 3 cues need to be unmasked for alpha press (A meeting of employees).

In support Rai and Srivastava (1976) may be cited. In their study of indirect person perception they showed that the different modes of presentation did not generate different perceptions in most cases.

The initial perception of the stimulus picture being the frame of reference for all subsequent masking upto beta press the withdrawal of the same is also against the same frame of reference and therefore the limen value against the maximum cue if considered it would be seen (Table 1) that it does not follow any definite pattern and thereby keeping open the alpha-beta press affairs of social stimuli absolutely on the cognitive details of the reinforcement and not on social environment stimulus.

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EXAMINING THE ATTITUDE OF TEACHERS TOWARDS CLASS ROOM TEACHING IN RELATION TO SOME SOCIO-PERSONAL VARIABLES

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ABSTRACT

The study examines the attitude towards classroom teaching in structural relation to general adjustment, morale and attitudes towards education and family using multiple regression and factor analyses on 134 Ss : 61 males and 73 females. It is indicated that general adjustment and morale are predominantly buoyant in character while conformity underlies considerably the attitudes of education and family but only smoulderingly the attitude of classroom teaching. Education is the only significant predictor of the attitude towards classroom teaching for the females, family for the males, while both form a valid set of predictors for the combined group. The study indirectly supports the timeold view that middle class men symbolize the cognitive life of society but calls in question the view that women symbolize family. Lastly, males are indicated to be 'pro-pupil', while females to be 'pro-content' in their approaches to classroom teaching.

INTRODUCTION

Teachers' attitudes towards teaching and related areas seem to be sinequa non not only as valid predictors of teacher motivation but also as criteria for the isolation of other valid noncognitive predictor variables of personality, broad as also specific. This calls for studies connecting the two types of variables. Contemporary literature shows a growing body of studies on certain teacher attitudes (Buch, 1974, 1979 ; Getzels & Jackson, 1963 ; Khan & Weiss, 1973 ; Som, 1981). But in the area of the attitude towards classroom teaching studies seem very few. In addition, only a very few studies have used the attitudes to isolate valid noncognitive personality variables predicting (or capable of predicting) teacher motivation.

The present study examines the attitude of classroom teaching (c) in structural relation to general adjustment (g), morale (m), and the attitudes towards education (e), and family (f).

METHOD

Subjects : The sample comprised 134 students of B.Ed class belonging to age-levels varying from 22 to 45 years of the Department of Education,

Calcutta University . The male subsample was of 61 of which 42 were experienced and the rest were prospective secondary school teachers. And the female subsample was of 73 of which 20 were experienced and 53 were prospective secondary school teachers

Tools : The following tests were used in the study.

- i) The Minnesota Survey of Opinion (MSO) : Short form to assess (g) and (m).
- ii) Ten items from the MSO : Long form to assess (e) and (f) (5 items in each case).
- iii) Relevant fifteen items from Ahluwalia's TAI to assess (c).

Procedure : The tools used were administered to the sample chosen by the random sampling technique with proper instructions and on different occasions.

RESULTS

The data obtained by administering the tools indicated above were scored in terms of the scoring schedule and were processed through statistical analysis. The study employed correlations, multiple regressions and factor analysis. Regression analyses were performed successively with increasing number of predictors starting with the one having the highest correlation with the criterion (c). Factor solutions represent centroid-varimax pattern. The results are shown in tables 1 through 5.

Table 1

Showing intercorrelations among the variables used

Group	g	m	e	f	c
M (male)	g	.712	.654	.449	.181*
	m		.420	.297	.291
	e			.396	.120*
	f				.320
F (female)	g	.538	.580	.173*	.252
	m		.204*	.141*	.140*
				.290	.364
	f				.150*
C (combined)	g	.631	.613	.342	.205
	m		.321	.228	.198
	e			.345	.238
	f				.237

* $p > 0.05$

Table 2a
Multiple Regression of (c) on the predictors

Group : C

Predictor(s)	R ²	df	FR	R _D ²	df	FR
e	.0566	1,132	7.93*			
e,f	.0838	2,131	5.99*	.0272	1,131	3.89+
e,f,m	.0954	3,130	4.57*	.0116	1,130	1.67
e,f,m,g	.0958	4,129	3.42*	.0004	1,129	.06

* P < .05 + FR (1,131) = 3.92.

Table 2b
Multiple Regression of (c) on (e) and (f)

Group : C

Predictor	beta wt.	df	t	Contribution
e	.177	131	1.99	.0421
f	.176	131	1.97*	.0417

* t_{.05} = 1.98

Table 3
Multiple Regression of (c) on the predictors

Group : M

Predictor(s)	R ²	df	FR	R _D ²	df	FR
f	.1030	1,59	6.78*			
f,m	.1451	2,58	4.92*	.0420	1,58	2.85
f,m,g	.1628	3,57	3.69*	.0177	1,57	1.20
f,m,g,e	.1631	4,56	2.72*	.0003	1,56	.02

* P < .05

Table 4
Multiple Regression of (c) on the predictors.

Group : F

Predictor(s)	R ²	df	FR	R _D ²	df	FR
f	.1325	1,71	10.84*			
e,f	.1350	2,70	5.46*	.0025	1,70	.20
e,g,f	.1369	3,69	3.64*	.0019	1,69	.15
e,g,f,m	.1390	4,68	2.74*	.0021	1,68	.17

* P < .05

Table 5
Factor Analysis : Centroid-Varimax Solution

Group	M		F		C	
Variable	I	II	I	II	I	II
g	.202	.880	.699	.386	.722	.414
m	.273	.726	.713	.109	.765	.182
e	.236	.673	.258	.721	.367	.623
f	.596	.301	.096	.406	.170	.523
c	.515	.102	.124	.488	.110	.406

DISCUSSION

Two factors are seen to underlie the tests included in the study. The first factor has, in general, moderately high loadings on g and m and is led by m (Table 5 : C). As m implies 'a state of individual and psychological well-being and buoyancy based upon such factors as physical or mental health, a sense of purpose and usefulness, and confidence in future' (Webster, 1976), it seems, the factor can be adequately and simply labelled 'buoyancy'. The second factor has moderate loadings on e and f and is led by e. It is also seen to be associated with g and c with loadings very near the cut-off value of .45 (Rummel, 1970). Although this association is not substantial, it helps identify the factor which, it seems, can be adequately called 'conformity'. For M, however, factor I represents conformity and factor II represents buoyancy.

The factors do not completely explain the variables under study but seem to provide an insight into their structure. Assuming factor loadings between .30 and .45 to indicate some operating effect of the factor concerned, it is seen that while conformity seems to have some smouldering effect on g except for males, m is practically free from it. Both of them are predominantly buoyant in nature.

Secondly, conformity is conspicuous in e and f, while buoyancy has some operating effect on e but not on f. The sexes, however, differ very widely on this point. For M, e falls structurally under buoyancy, while for F, it falls under conformity. Again, e involves orientation towards the cognitive and professional life of society. Thus, the study seems to corroborate the traditional view that middle class men symbolize the cognitive or professional life of society in as much as the sample of the study represents a subset of middle class people. But as f does not fall structurally under buoyancy for F, the study seems to refute the timeold view that women symbolize the family. Then, is it that the view has been spun and made hallowed in this male dominated society only to relegate the women folk to the hearth? Or is it that the view does not apply middle class women in general or the present sample in particular?

Further, in f conformity is conspicuous, while buoyancy leaves an operating effect for M. But for F conformity has only a smouldering effect. Obviously, the obtained factors are quite inadequate to explain f for F. Now as f involves orientation towards personal-societal and affective relationships, M, unlike F, seems, by structure, to be adjustive in socio-personal dealings. The study then indirectly tends to support McGee (1955).

Evidently, middle class women seem to bear a tendency for a nonconforming and possibly a dominating role in the family. They do not identify with it as they are expected to do. It seems, they are losing identification with their stereotyped sex role because they are now entering at an increasing rate the traditionally masculine professional fields. To them education is an effective support in this change-over. They conform to it but do not identify with it like the males. They are shedding their traditional values but they are yet to take on masculine ones or some ones new. Obviously, further studies seem necessary before coming to any definite view in this regard and other issues cropped up above.

So far as c is concerned, conformity has only some smouldering influence while buoyancy has no effect at all on it. Thus, the study bears out that classroom teaching is not really an adjustive or routine work although it involves some set patterns of activities relating to learning situations and tasks, and to the functioning of the classroom group and the individual members

within the norms and limits set by society and the school. Again, buoyancy involves a spirit that relates to one's own, whereas classroom teaching involves relationship with the others. It seems, because of this functional distinction buoyancy has no effect on c .

The attitude, however, involves conformity for either sex and it associates structurally with f for M but with e for F . It seems, the sexes differ in their approaches to classroom teaching. For M , the approach involves affective conformity, while for F it involves cognitive conformity. In other words, male teachers are indicated to be 'pro-pupil', while female teachers to be 'pro-content' in their approaches. Multiple regression analyses also affirm this fact that for M only f is a significant contributor to c (Table 3), while for F only e is significant (Table 4). The respective regressions can be given as

$$Z_c = .321 Z_f$$

and $Z_c = .364 Z_e$

Lastly, as $FR(1,131) = 3.89$ is almost significant at the .05 level (Table 2a), e and f can be taken to form, in general, a valid set of predictors of c each contributing almost equally (4%) to the variance of c (Table 2b). The regression can be put as

$$Z_c = .177 Z_e + .176 Z_f$$

The regression agrees with the fact that e and f associate structurally with c (Table 5). Again, the fact that e and f involve some factors over and above conformity, explains why conformity has only an operating effect on c but e and f contribute significantly to it. Further, as f is charged affectively and e cognitively, the regression suggests equal and concordant importance of both affective and cognitive approaches to classroom teaching. Furthermore, the factor conformity and the variables e and f explain but a very small fraction of c . Then, what other factors or variables adequately explain it? Effective classroom teaching seems to involve a blend of scientific techniques, knowledge or useful skills, ingenuity, insight, empathy, imagination and creativity so that pupil's learning becomes meaningful and stimulating in a cohesive social climate. How far do these variables explain c ? Further studies seem necessary.

CONCLUSION

The study supports some existing views. It refutes some others. It adds some new facts while generates some new problems. However, the conclusions drawn are bound to suffer from oversimplification of facts unless cross-validated in future studies. The study asserts predominance of buoyancy in general adjustment and morale, and considerable presence of conformity in the atti-

tudes of education and family which form a valid set of contributors to the attitude of classroom teaching proving thereby the equal and concordant importance of cognitive and affective approaches in classroom teaching. But conformity has only some smouldering effect on this attitude. Lastly, the attitude of family is the significant contributor for males, while for females it is the attitude of education. This along with the factor pattern suggests that the sexes differ in their approaches to classroom teaching : males' approach is 'pro-pupil', while that for females is 'pro-content'. Further, the study lends support to the view that middle class men symbolize the cognitive life of society, but refutes the timeold view that women symbolize the family.

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GUIDANCE FOR SLOW LEARNERS IN SCHOOLS

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ABSTRACT

Slow learners are deemed exceptional children who make their learning precisely slower to that rate which may be normally expected from the children of their age-group.

The etiology of slow learning suggests habitual, handicapped and less-able types of slow learners. These three types of slow learners can be identified with testing and non-testing techniques used together.

For the education of habitual slow learners, we have to break the impasse of this habit formation. To take out such like slow learners from their transitional spells of slow learning, their socioeconomic and emotional difficulties should be effectively sorted out.

Once it is ascertained that a child is not handicapped in mental abilities, for all other handicaps, his pace of learning should be kept at par with the rest of his classfellows. This demands a healthy attitude of parents, teachers and the society alike towards the handicapped children.

Less-able slow learners are inherently slow learners. They are genetically handicapped in mental ability. For their education, we should attend to both the contents of studies as well as teaching-learning strategies in their own pretext.

Slow learners need individual attention. Slow learners need education for learning and adjustment which is so thoughtfully blended in the concept of Guidance in Education.

INTRODUCTION

In Schools, amongst the folk of children, there are but a few children who are known as exceptional children. These are the children, who, on one account or the other, make a distinct difference from the rest of their classfellows. We may find exceptional children who differentiate themselves from the constituent members of their peer group on more than one count, too.

From educational point of view, four types of exceptional children have been recognized. They include: physically, mentally, socially and emotionally exceptional children. In each one of these four categories, we come across two types of such like children. On the normal distribution curve of mental ability, exceptional children placed at its right and left ends are popu-

larly known as gifted (superior mental ability) and mentally retarded children respectively. Conventionally, slow learners are bracketed with mentally retarded children. However, practically, slow learners can be witnessed in all the four categories of exceptional children.

Slow learners are deemed exceptional children, who make their learning precisely slower to that rate which may be normally expected from the children of their age-group. In this context, etiology of slow learners, suggests three types of slow learners :

- I. Habitual slow learners
- II. Handicapped slow learners
- III. Less-able slow learners

I. *Habitual slow learners*

These are the children who happen to be slow learners by temperament. Somehow or the other, they have come to develop a slow style of learning. That is why, we better call them slow learners by habit.

Habit formation in itself is the result of learning based upon observations, experience and reinforced practice. That means, some children might be prevailed upon by the circumstances where they may be constrained to inculcate slow learning habits. That way, we may look at those pupil-learners as habitual slow learners who have been accustomed so by their uncalled for compulsions.

Riessman (1965, p. 313) thinks a child learner slowly because he learns in what he calls in one track way. That is, such a child, persists on one line of thought and is not flexible or board in his outlook. He remarks, 'Very often this single minded individual has considerable creative potential, much of which goes unrealized because of lack of reinforcement in the educational system.'

Furthermore, a pupil may be slow because he is habitually extremely careful, meticulous or cautious. He may be slow because he refuses to generalize easily. He does not follow other frames of reference. He is an analytical mind. He always opts for learning by insight which might prove for him to be too much time taking. It draws an optimistic profile of slow learners. In the words of Riessman, 'There is no reason to assume that there are no great many slow, gifted learners.'

In the usual practices, it is seen that these are the habitually slow learners, who, might be inadvertently, but are placed in the list of underachievers in schools.

II. *Handicapped slow learners*

A child because of visual or auditory malfunctioning may keep himself away from sharp contact with the learning situations. This in turn adversely affects developing his intellectual potentials. In school, he misses part of what is said in the class or fails to profit from what is written on the chalkboard. He lags behind in classwork, becomes bored or discouraged and adds to the lack of sensory contact with activity the additional handicap of being inattentive.

Various kinds of speech defects may similarly cause a pupil to appear to be a slow learner. His hesitency in response, his difficulty in expression may give the impression of his slow mental response. If impatience, scorn is added, the individual may withdraw and compound the impression of retarded mental development.

Handicapped children are essentially placed at a disadvantageous position of learning as compared to their classfellows. They usually under estimate or mis-calculate their learning capabilities. They usually fall prey to inferiority complex and erroneous feelings of incompetency. This brings their creative mental operations virtually to a dead halt. Worst of all this, handicapped children can be seen obsessed with the mental mechanism of withdrawal and rationalization, leaving themselves lying low in all of their daily routines. It can be very rationally remarked that, this is their mental make-up rather than mental deficiency which makes handicapped children still the more handicap (slow) in their learning. All the more, they lack in stimulant conditions and conducive environments adequate to their unique motivational requirements to maintain an appropriate rate of learning. Under these adverse conditions, handicapped children may perpetuate slow learning to keep themselves classified as handicapped slow learners.

III. *Less-able slow learners*

These are mentally deficient children who are primarily considered as slow learners. The Dictionary of Education, defines a slow learning boy or a girl as the one, 'Who though capable of achieving a moderate degree of academic success, will do so at a slow rate with less than average efficiency.' In the words of Kerner (1965, p. 327) 'Slow learners are children whose rate of intellectual development is about 75 to 90 percent as rapid as that of average children. These children whose IQ ranges from 75 to 90 are referred to as 'dull normal' or 'slow average'.

Habitual and handicapped slow learners should be viewed as rendered incapable of making the best use of their potential mental abilities. They

may be in the phase of slow learning which should be taken as transitional, momentary and ultimately viable to be replaced by the satisfactory rate of learning. Whereas, deficient mental equipment of slow learners, is attributed to their heredity by birth. It makes them beyond their reach to keep pace in learning with their class fellows of average mental abilities. It may be construed as a permanent feature of their life-long personality make-up.

Even with the permanent nature of their slow learning, less-able slow learners are not categorized as mentally retarded. They are capable of making learning to a degree which enables them personally, socially and occupationally independent. This takes them outside the purview of mentally retarded children like educable, trainable or totally dependent children. On this issue Kirk (1970), writes this way :

'The slow learning child is not considered mentally retarded because he is capable of achieving a moderate degree of academic success even through a slower rate than the average child. He is educated in regular classes without special provisions except an adaptation of the regular class program to fit his slower learning ability. At the adult level he is usually self-supporting, independent and socially adjusted.

Less-able slow learners have their salient characteristics. In the words of Robert F. DeHaan quoted by Torrance and Robert (1965), slow learner !

1. is unable to think abstractly or to handle symbolic materials ;
2. is unable to understand and carry through directions for assignments ;
3. is below the so-called common sense and reasoning level of the class ;
4. is unable to understand complex assignments or game rules ;
5. is slow in all areas ; academic, social, emotional and physical ; breaks rules of conduct or of games and is often unaware of doing so ;
6. is unable to work independently ;
7. is easily confused ;
8. has a short interest and attention span ;
9. seems unable to concentrate voluntarily ;
10. finds it extremely difficult, if not impossible to keep up with the class in academic work ;
11. is behind normal grade achievement in school.

The concept of slow learners entails all those children who are marked, more or less, consistently lagging behind the schedule of their respective school classes and/or in general growth and developmental patterns. Their slow learning may be attributed to habit formation or to one or the other handicap and/or to their being born with less than average mental abilities.

2. Identification

The identification of slow learners should be accepted as a challenge. It can not be left to a chance. Slow learners can not be located at random. Moreover, their identification should not be taken as incidental to any other school activity. Slow learners are border line cases who can neither be set aside as merely mentally retarded nor can be taken at par with the children of normal rate of learning. Factors responsible for slow learning, suggest a specific design for the identification of slow learners.

Teacher's sincere concern and dedicated involvement in their profession, make their observations a strategic source of reliable and valid information for all kinds of educational investigations. While working on an appropriate use of checklists and rating scales, teachers' collective and coordinated efforts should be duly reckoned with for the location of slow learners successfully. These children ostensibly betray a lack of interest in studies. They shun taking any active part in school activities. They are usually found absenting themselves from school. Their home task may be assessed only to save themselves from the reprimands of teachers and parents. To keep a distance from teachers, they are marked to be back-benchers in the classes. With the knowledge of such like outstanding behavioral tendencies ; habitual, handicapped as well as less-able slow learners can hardly escape in their identification from the penetrating eyes of teachers.

Selected intelligence tests and their accurate administration, scoring and interpretation helps us to specifically screen out less-able slow learners from the rest of their family of slow learners. On intelligence tests, less-able slow learners, claim less than an average IQ i.e. ; 90-110. That is to say, their normal mental age always lags behind their chronological age. On achievement tests, they are listed to be tail enders in their scores. Invariably, a sketch of irregular curve is attributed to their profile of overall achievement in schools. In the identification of less-able slow learners, teachers' observations, intelligence tests and achievement records combined together lead us to a sufficiently reliable and potentially valid results.

A regular medical check up of students is a must to detect the kind of physical handicap responsible for their slow learning. Eye, ear and speech deformities having gone unnoticed in their early age, make them misunderstood as mentally retarded children. Children suffering from chronic ailments, prompts them to miss the lessons so very frequently. And in their 'pick up' and 'carry over' operations, they are relegated as slow learners.

A study of study-habits of students point out habitually slow learners. A systematically maintained cumulative records of students highlight their

socio-economic backgrounds and emotional overtone of minds. It serves us best to find out slow learners by habits and temperaments. Anecdotal records also go to reveal a valuable information in this direction.

Slow learners are identified with a battery of testing and non-testing techniques. Their respective salient features should facilitate us to classify them as habitually, handicapped and less-able slow learners.

3. *Educational provisions*

Slow learners present one of education's most crucial problems to be tackled at all levels. The education of slow learners should be planned befitting to their needs, aspirations and limitations. Since we visualize three types of slow learners, learning programme for each one of them should be examined exclusively.

I. *Education for Habitual slow learners*

Habitually slow learners happen to acquire a slow learning habit. They come to remain contented or complacent with their own pace of learning. Habitual slow learners dogmatically and fantastically practise their personal style of learning with the self-made belief, 'slow and steady wins the race'.

Most of the habitually slow learners are socially disadvantaged children and or they are emotionally disturbed ones. These are the children for whom learning stands to matter a very little. They harbour the illconceived notion that learning is not meant for them, learning will do no good to them and they need not take the pains of undergoing 'painful' courses of formal school education. Briefly stated, this type of slow learners perpetuate a disliking for learning.

Socially disadvantaged children come from the poor families. Their basic needs usually remain unsatisfied. They have to do without adequate food, shelter and clothing. To think of education for these children, we have to start with the satisfaction of their physiological needs, first. They should be given the feel and taste for the available social advantages. They have to be shown an access to amenities from which they have been kept unfortunately deprived of. This is not to be taken as an incidental or merely as an auxiliary feature of educating socially disadvantaged children, but it should be launched as a full-fledged educational programme itself. It should be implemented as a measure of great restraint on these children to develop the habit of slow learning at its grass roots.

In their compensatory education of socially disadvantaged children, they should be helped to develop a vocabulary to make up their impoverished language development at home. Story telling techniques may be suited for the

purpose. Slow learners' listening to stories, subsequently to be retold by them, shall sharpen their power of association and retention. Visits to the places of potentially enriched learning-experiences, shall give these children a fair opportunity to develop the skill of concept formation. That way, they shall also improve upon their faculty of perception. All this in a 'Gestalt' strategy will go a long way to save the socially disadvantaged children falling prey to the habit of slow learning. Once these children gather self-confidence and they are exposed to the vast-arena of world of learning, they would very much cherish a real zeal and zest for learning. This will trigger off their rate of learning. Henceforth, by no stretch of rationalization, they would be entitled as slow learners merely because of their poor socio-economic backgrounds.

Emotionally disturbed children find themselves uncomfortable in learning situations. Albeit, they may be capable of, but they rarely operate their incarnate learning ability to any useful ends of learning. Moreover, as they are always preoccupied with emotional problems, with divided attention and faltering concentration, they are always prone to become slow learners. Their mental infrastructure is full of frustrating experiences, annoying relationship and feelings of insecurity. Unlike socially disadvantaged children, emotionally disturbed children, might have their basic needs satisfied, but their psychological and social needs predominantly continue baffling and disturbing them. Under these utmost unfavourable learning conditions, emotionally disturbed children but remain as slow learners by habit.

For the education of emotionally disturbed children, the geneses of their being slow learners should be located in the affective domain of their personality structures. There is no justification of getting unnecessarily suspicious of their intellectual abilities forthwith. To streamline their learning in conformity with their abilities, emotionally disturbed children should be essentially facilitated to have a sigh of relief from their disturbed state of minds. In this context, a child-centered nondirective teaching-counselling strategy should be made a nucleus for educating this type of slow learners.

It is an open acceptance of emotionally disturbed children at the hands of their parents, friends and teachers which can stabilize them from unstable equilibrium. Loving and affectionate treatment meted out to them, shall work as a relieving Psychotherapy for them. To provide a sense of security, feelings of worthiness and opportunities for seeking recognition in peer group, should be considered very much paramount in educating these children. They need not be set aside as problem children. They should be taken as children capable of making good strides in their learning. We should exercise restraint in labelling them as mentally retarded ones. The professional skill and

acumen of teachers shall always be under challenge for educating the emotionally disturbed children effectively.

For the education of habitually slow learners, we have to break the impasse of this habit formation. It is a question of mending the habits of their learning rather than questioning their capability of learning and leaving the hopes of their recovery. To take out such like slow learners from their transitional spells of slow learning, their socio-economic and emotional difficulties should be effectively sorted out.

B. Education for Handicapped slow learners

Just like habitually slow learners, handicapped children when found to be learning slow need not be hurriedly taken for granted as mentally retarded children. Handicapped children turn to be slow learners when they are always beset with their misfortune of handicap. In the planning of education for handicapped slow learners, we should start with the task of awakening their subdued interest for school and studies. Viable motivational forces are to be set in motion to gear up the rate of learning of handicapped children. Their handicap should not be permitted to serve them a good excuse to run away half-way from learning to the mile-stones falling within the reach of their learning abilities.

A routine medical check-up of students should be considered as a regular obligatory feature of all schools. An incipient trouble in speaking, hearing or seeing should be treated in its very infancy. A little bit of difficulty in speaking, trouble in vision or abnormality in hearing when goes scot free without being tackled at appropriate hands, develops itself in the form of a cognizable handicap for life. Better we should nip the evil in the bud. But even after taking all precautions, some children may be left with chronic ailments or functional disabilities. They need be kept morally boosted up. It is in this way that an integrated pattern of education for all children with more or less normal mental abilities, is advocated by all. It is only for the extreme cases of handicapped children, that we think of opening separate schools otherwise special provisions are made available to the needy in normally run day-to-day schools.

A serious thinking should be given to enable the handicapped children identify themselves with the school. We should take care of their participation in the activities of the school. Some of the activities in which handicapped can easily associate themselves, should be made an integral part of the school education programme. Once it is ascertained that a child is not handicapped in mental abilities, for all other handicaps, his pace of learning can be and should be kept at par with the rest of his classfellows. This demands a

healthy attitude of parents, teachers and the society alike towards the handicapped children. This will help the handicapped children develop a healthy self-concept to result in the acceleration of their rate of learning.

C. Education for Less-able slow learners

This type of slow learners may be called born or inherently slow learners. They are genetically handicapped in mental ability. Their mental development is always less than the normal ones. For the educational programme of less-able slow learners, we should attend to both the contents of studies as well as teaching-learning strategies in their own pretext.

We talk about 'enrichment' of contents for the gifted children, here for less-able slow learners, we may have to think about de-richment of normal courses of studies. The abstract learning material may be cut short to accommodate the limitations of this type of learners. The curriculum must be related to the day-to-day life of these children. Too many and too much mental exercises may not be taken in the fitness of slow learners under discussion. Their power of association, perception and retention should not be taxed all the time to their dismay. They should not be exposed to ticklish problems to any useful purpose. Work experience courses should take an edge over the reading-writing load of work for less-able slow learners.

Teaching strategies need equally be carefully attended to for the benefit of slow learners of less mental ability. They should not be expected to take initiatives to self-learning. We should realise their difficulty to understand or comprehend well by our telling them once or twice. We should be open to repeat and revise. To make them interested and motivated to learn, teachers shall do good to plan their lessons meticulously. Especially, for less-able children, teaching aids should be amply made use of. All efforts should be made to involve the students in the school programme.

Teaching practices for less-able slow learners should revolve around Bloom's concept of Mastery Learning. In this concept, it is envisaged that a learner should be given an appropriate time for learning and attaining mastery over the first phase of learning before he may be expected to take up the second phase of learning. Learner's learning ability is viewed in the context of his own rate of learning. This holds good for slow learners who for the sake of keeping pace with the average children, are made to jump from one lesson to the other without having made mastery over any one. These children under the circumstances, consequently face failures to create a distaste for learning altogether. The frustration so caused leaves very unhealthy repercussions on the mental health of students. Teaching by units complete in themselves under consistent feedback system, should be followed for less-able

slow learners in viable small groups. Teachers' competency, efficiency and professional wisdom has very much been rightly emphasised for their successfully i.e., effectively teaching the less-able slow learners

It is not only in curricular activities, but also in co-curricular activities, but also in co-curricular activities that we have to watch the interests of less-able slow learners. The games involving complicated rules and procedures need be replaced by easy-playing games. Folk-dances, popular one-act plays and dramas should be profitably included in the teaching strategies of this type of learners.

More help must be given to the less-able slow learners in transferring learning from one situation to the other. The school curriculum should deal with real problems in the interest level of these children because it is easier for them to transfer learning within this context. The less-able slow learners need assistance for learning transfer-skill, however, they may require more time for it.

Conclusion

Slow learners learn slowly for all practical purposes. They take their own time in reacting to their environments. They are not found to be readily sensitive to the learning situations. In the classes they are marked to be absentminded students. They need assistance for making appropriate choices, plans and adjustments but may not be aware of it and need not ask for it. This reflects their indifferent attitude towards the school. This may be attributed to their lack of self-confidence and development of poor self-concept. We have to think of education for slow learners within this framework.

Slow learners face more adjustment problems than the normal children. To make the deficiency in learning, they try to excel in other fields by all means. They come to attack the very system they live in. Their home environment predisposes them to be delinquents. There are more broken homes among slow learners than among the rest of the children. There are inadequate play and recreational areas. They tend to have more social and emotional problems. Slow learners are susceptible to suggestions from peers. They are eager to be accepted and to feel that they belong to that they will go along with and engage in antisocial activities if this promises close peer relationships and warm welcome.

Slow learners are likely to use every conceivable escape to stay out of school. This situation is usually created by poor school progress and the poor grades. These pupils try to avoid a situation that gives them a little

satisfaction. The school has to strengthen its holding power over the children. The school should prepare rewarding and fascinating exercises for these learners. The school has to be made a place they should love coming and feel like staying outrightly.

Guidance was essentially thought for exceptional children to start with. Slow learners need education for learning and adjustment which is so thoughtfully blended in the concept of Guidance in Education. This leads us to turn to Guidance for educating exceptional children of slow learning type.

Slow learners need individual attention. Guidance envisages a programme of education to educate children all individually within group situations. It leaves a good scope for meeting individual students to meet with their personal needs, problems and challenges. Guidance, that way, makes education meaningful for one and all children. It attends to their alround development of the personality. For cognitive development their emotional and motor development is attended to well in advance. Every care is taken to make each and every child happy to involve and identify himself with the school and its programme.

Guidance in the development of healthy attitudes and sound values amongst the students, plays a pertinent role. It accepts the individual child and respects his individuality for all his inter-intra individual differences. It prepares children for living a life of self-satisfaction and social contribution. It is in this context, we think of Guidance for slow learners more than for anyone else in schools.

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CONSTRUCTION & STANDARDISATION OF A PERFORMANCE TEST-BATTERY OF GENERAL MENTAL ABILITY OF THE CHILDREN OF AGE GROUPS 6 TO 10 YEARS

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ABSTRACT

The study aimed at providing an instrument to measure the general mental ability of the children of age groups 6 through 10 years. For standardisation, the test-battery was administered on a sample of 1000 children (500 boys and 500 girls). Girls' performance was slightly better than boys' performance in Stringing Bead Pattern and Symbol Substitution tests. Boys' scores were slightly better than girls' scores in other tests. No significant difference emerged from the norms of boys and girls.

INTRODUCTION

Manipur is situated in the easternmost corner of India bordering with Burma. It is almost rectangular in shape with a precious little valley in the middle, surrounded by sprawling hills on all the sides. Imphal, the capital of Manipur, lies in the valley. The valley is mainly inhabited by the Meiteis. The hill area is the abode of different tribes of innumerable sections and classes. With the rapid changes taking place in the different communities of this state on several fronts there has been an enormous increase in the number of persons seeking educational guidance for the children of age groups 6 to 10 years. Thus the need for the measurement of mental ability of such children is obvious. On the other hand, in addition to Manipuri language there are as many as twenty-nine recognised dialects in Manipur. Hence here it is very difficult to administer a verbal mental ability test which requires the use of languages of this place. As the solution of the task of a performance test does not demand the intensive use of a language, the administration and use of a performance test are well suitable for measuring the mental ability of the children of Manipur of the said age groups. But till now no such work has been executed here. At present WISC is used for measuring mental ability of these children. But it does not provide the different norms for the children of this place. So Manipur is in need of a performance test for measuring the mental ability of her children of the said age groups. The present study is an attempt to fulfil this need.

It is expected that this piece of research work will provide an instrument to measure the general mental ability of the children of age groups 6 through 10 years for solving the problems related to :—

a) School admission, (b) Classification of pupils into homogeneous groups, (c) Class room use, (d) Diagnosis of the causes of backwardness, (e) Promotion of the students from one grade to another, (f) Prediction of the future progress in academic subjects, (g) Educational guidance and (h) Educational research.

METHODOLOGY

Sample

The children of Manipur of age groups 6 to 10 years (studying in grades I to V) were taken as population of this research work. In order to administer the test to a representative group, a sample of 1000 children belonging to both the sexes was drawn. The test was standardised on a sample of 100 boys and 100 girls at each grade level. Selection of the sample was based upon geographical area, urban-rural residence and communities.

Tools

The tools used in this research work for collecting the data was based on the performance test-battery which consisted of the following six tests :

- (a) Stringing Bead Pattern, (b) Picture Sequence, (c) Picture Assembly, (d) Object Profile, (e) Block Design and (f) Symbol Substitution. The test-battery was modelled in the light of the well known tests :
- (a) Stanford Binet's Stringing Bead test, (b) Wechsler's Picture Arrangement test, (c) Cornell Coxe's Picture Arrangement test, (d) Feature Profile test, (e) Koh's Block Design test, (f) Army Beta test, and (g) Pintner-Paterson's test.

Design

Test-items of the battery were designed in accordance with Indian conditions. Weightage to the items, fixation of the time limit, and such like were assigned on the basis of the pilot study (administered to 50 children of both sexes taken from different communities). Initially the number of test items of stringing Bead Pattern, Picture Sequence, Picture Assembly, Object Profile, Block Design and Symbol Substitution tests was 11, 9, 6, 10, 14 and 36 respectively.

For knowing the characteristics of the test-items, the battery was initially administered on a sample of 400 children (80 from each grade) taken from different communities. Difficulty values and validity-indices of the test-items were calculated from the try-out data. The normal curve was taken as a guide line in the estimation of difficulty-values of the test items. The items with validity-indices of 0.20 or more were regarded as satisfactory. After weeding out the inappropriate items the final form of the battery took the shape of the following structure :

Stringing Bead Pattern (5 items), Picture Sequence (5 items), Picture Assembly

(4 items), Object Profile (5 items), Block Design (6 items), and Symbol Substitution (36 items).

Then the battery was administered on the rest 600 children. Measures of central tendency and measures of variability of the battery-scores and test-scores were estimated. Normality of the distribution of these scores was tested by Chi-Square test, Skewness and Kurtosis. Stability of the test items was examined by test-retest method.

Kuder-Richardson's formula was used to determine the coefficient of reliability of the different tests (except Symbol Substitution test). Coefficient reliability of the Symbol Substitution test was determined by test-retest method. The reliability coefficient of the battery was also estimated by Kuder-Richardson's formula. Factorial, predictive, concurrent, content and cross validities of the battery were studied. Factorial validity was studied with the help of the g-saturations and factor-loadings obtained from Spearman's formula and Thurstone's centroid method. For finding the predictive validity, the correlation coefficients between the battery-scores and marks obtained by the children in the school examination in English, Science and Mathematics were calculated. Concurrent validity was developed by correlating the scores of the battery with those of WISC and Bhatia's Performance test-battery. Cross validity was established by correlating the scores of the battery obtained from the original sample and from a sample outside the original sample.

Norms for each grade and age level were established separately for boys and girls. Grade percentiles and age percentiles were also estimated for both boys and girls. The raw scores were converted into T-scores and then deviated IQ tables were constructed with the help of best-fitting linear equation for each grade and age-level for boys and girls separately.

RESULTS

Scores obtained from the administration of the tests were classified and arranged in the form of frequency distribution tables. Analysis of the tests, scores was done on the basis of different statistics.

Table I
Frequency distribution of the battery scores

Score	Frequency
70-79	86
60-69	105
50-59	218
40-49	247
30-39	203
20-29	98
10-19	43
N=1000	

In this case the obtained highest score was 78. Sixteen subjects secured this score. The rest of scores were between 10 and 78.

Table 2
Characteristics of the test-scores

TESTS	Mean	Medium	S.D.	Sk	Ku
Test-Battery	46.08	45.81	15.39	0.053	0.256
Stringing Bead Pattern	9.57	9.49	5.09	0.047	0.255
Picture Siquence	11.79	11.57	6.05	0.109	0.195
Picture Assembly	8.99	9.11	6.70	-0.053	0.238
Object Profile	6.83	6.77	3.81	0.047	0.197
Block Design	7.12	8.00	5.60	-0.471	0.185
Symbol Substitution	8.82	7.69	6.71	0.635	0.275

Mean and median in each test-scores were approximately equal. Skewness and Kurtosis of the tests were negligible positive (or negative) skewed and slightly platykurtic (or leptokurtic).

Table 3
Analysis of variance for testing the effect on sex scores

Sources of Variation	Degrees of freedom	Sum of squares	Mean square	F-ratio
Sex	1	5.19	5.19	2.19 *
Within	998	2363.85	2.37	

* Not Significant

The obtained value of F was less than the table-value of F at .05 level. Hence the effect of sex on scores was not significant.

Table 4

Reliability coefficients & standard errors of the tests

TESTS	r	σ_r	σ_{est}
Stringing Bead pattern	0.86	0.026	1.88
Picture Sequence	0.72	0.048	3.20
Picture Assembly	0.78	0.039	3.15
Object Profile	0.69	0.052	1.12
Block Design.	0.66	0.056	3.25
Symbol Substitution	0.91	0.017	2.01
Test Battery	0.81	0.034	6.71

The reliability coefficients and σ_{est} values were closer to the standardised values of the performance scale of WISC and others. These were within the acceptable limits. These show a high degree of reliability of the battery.

Table 5

Intercorrelations of the tests

TESTS (with Abbreviations)	SBP	PS	PA	OP	BD	SS
Stringing Bead Pattern (SBP)						
Picture Sequence (PS)	0.62					
Picture Assembly (PA)	0.74	0.69				
Object Profile (OP)	0.70	0.71	0.64			
Block Design (BD)	0.58	0.61	0.65	0.59		
Symbol Substitution (SS)	0.69	0.63	0.76	0.63	0.65	
Test Battery	0.71	0.69	0.72	0.70	0.72	0.75

These intercorrelation values revealed a close correspondence with the values obtained by Wechsler, Bhatia, Ramalingaswami and other well known researchers. These values were quite satisfactory.

Table 6

g—Saturations, centroid factor loadings & communality

TESTS	g—Saturations	Factor Loadings		Communality
		I	II	
Stringing Bead Pattern	0.82	0.83	0.071	0.694
Picture Sequence	0.80	0.81	0.112	0.669
Picture Assembly	0.87	0.865	0.133	0.766
Object Profile	0.80	0.812	0.324	0.764
Block Design	0.75	0.761	0.146	0.601
Symbol Substitution	0.83	0.840	0.083	0.712

g—saturations of the tests were estimated by Spearman's formula using correlation matrix and hierarchical matrix. Centroid factor loadings of the tests were calculated by the stone's centroid method. These values indicate a high degree of validity of the battery.

Table 7

Correlation between battery—scores & annual examination marks

Correlation between Battery-scores &	Correlation Coefficient (Predictive validity)
English marks.	0.40
Mathematics marks.	0.51
Science marks.	0.56

These coefficients maintained a close correspondence with the values reported by Desai, Bhatt, Ahuja, Kaul and other researchers. These were within the acceptable limits.

PERFORMANCE TEST-BATTERY

Table 8

Concurrent validity

Correlelation between	Concurrent Validity
Battery-scores & WISC-Scores	0.78
Battery-Scores & Bhatia's Battery-Scores	0.63

These values reveal a high degree of concurrent validity of the battery.

Table 9

Grade norms

Grade Norms	I	II	III	IV	V
For Boys & Girls (combinedly)	37.16	40.02	44.26	49.88	56.88
For Boys	37.22	40.24	44.56	50.08	56.90
For Girls	37.09	40.25	44.49	49.81	56.21

Table 10

Age norms

Age Norms	6+	7+	8+	9+	10+
For Boys & Girls (Combinedly)	37.79	42.94	47.65	51.92	55.75
For Boys	37.77	42.87	47.67	52.17	56.27
For Girls	37.70	43.23	47.95	51.93	55.17

No significant differences emerged from the norms of boys and girls. In many cases the chronological age provided by the guardians and head of the institutions were different. In such cases average age was estimated from those two different statements. Hence obtained age norms may not be used as dependable norms. These are useful as a check on the obtained values of grade norms.

Table 11

Classification of children according to their mental abilities

(N = 1000)

C. I. of Deviated I. Q.	Category	No. of Children included			Total
		Boys	Girls	Total	
125 and above	Extra Ordinary	7	4	11	1.1
115-124	Very Bright	42	46	88	8.8
105-114	Bright	89	86	175	17.5
95-104	Average	244	240	484	48.4
85-94	Backward	74	68	142	14.2
75-84	Very Backward	35	42	77	7.7
85 and below	Mentally defective	9	14	23	2.3

DISCUSSION

A perusal of the item-analysis revealed that the validity-indices of the selected test-items varied from 0.31 to 0.70. Its 50% had difficulty-indices between 0.25 and 0.75, 25% had indices larger than 0.75 and 25% had smaller than 0.25. The skewness of the distribution of the battery-scores was negligibly positively skewed and slightly platykurtic. Chi-square value (with 4 df between .02 and .01 of p) showed the normality of the distribution. In testing the effect of sex on scores, the obtained value of F was less than the table-values of F at .05 and .01 levels. Hence the effect of sex on scores was not significant. The table 4 shows that the reliability coefficient varied from 0.66 to 0.91, σ_r from .017 to .056 and σ_{est} from 1.12 to 6.71. These coefficients and σ_{est} values were satisfactory. The table 5 reveals high intercorrelations between the battery and its different tests. g-saturations (obtained from Sparman's formula), factor-loadings (obtained from Thurstone's centroid method), and intercorrelations of the tests with the battery maintained a closer relation with each other. This proved the validity of the battery. The obtained communalities varied from .601 to .766. Factorial analysis revealed that the battery under study contained only one factor in the six tests studied. The coefficient of correlations between battery-scores and annual examination marks showed satisfactory predictive validity of the battery. The acceptable concurrent validity of the battery varied from .63 to .78. The grade norms for the boys were 37.22, 40.24, 44.56, 50.08 and 56.90 for grades

I, II, III, IV and V respectively. The same grade norms for the girls were 37.09, 40.25, 44.49, 49.81 and 56.21 respectively. The age norms for boys for 6+, 7+, 8+, 9+ and 10+ years were 37.79, 42.87, 47.67, 52.17 and 56.27 respectively. The same age norms for girls were 37.70, 43.23, 47.95, 51.93 and 55.17 respectively. No significant differences emerged from the norms of boys and girls. It was observed that the girls' performance was slightly better than boys' performance in Stringing Bead Pattern and Symbol Substitution tests. In other tests boys' scores were slightly better than girls' scores. In this study the obtained highest and the lowest deviated IQ were 127 and 64 respectively. Children were classified into seven categories (Viz., extraordinary, very bright, average, backward, very backward and mentally defective). The percentages included in these categories were 1.1, 8.8, 17.5, 43.4, 14.2, 7.7 and 2.3 respectively.

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C O N T E N T S

	Page
Preference and tolerance of disability groups as a function of age and educational level —Henry H. Reiter and Audrey L. Kirsch	1
Diagnostic verbal test of mentally retarded —Subimal Deb and Varsha M. Shah	5
Functional education and integrated rural development —V. P. Sharma	17
Metaphorical models in Marx's 'Capital' —Deb Kumar Banerjee	23
Educational Psychology from the standpoint of a Marxist —Amiya Kumar Basu	29
Causes of scholastic dishonesty among the examinees —V. K. Rai	39
Personality : <i>Marxist concepts and practices</i> —Sukumar Bose	47
Discover the power of photography in working with handicapped children —Jyan Nath	55
A study of the personality Characteristics of mentally retarded and normal children —S. P. Ahluwalia and M. Deouskfer	57
Teachers' role as a mender of classroom structure —Jasobanta Roy	69

PREFERENCE AND TOLERANCE OF DISABILITY GROUPS AS A FUNCTION OF AGE AND EDUCATIONAL LEVEL

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ABSTRACT

The purpose of the present investigation was to assess the levels of tolerance for a number of handicaps and establish age as its correlate. The findings in general point to the conclusion that tolerance is not a development of the maturing process, especially in regard to the handicaps.

An extremely distressing aspect of living with an affliction is dealing with the various reactions of others. The sight of healthy children pointing a finger at a wheel chair victim while laughing, or mimicking a retarded person, is reason to seek relief from repetition of similar situations. Some school systems have implemented programs with such an end as a specific goal, and others feel that a generalized education may sufficiently increase tolerance. Yet, there are uneducated people showing vast amounts of warmth, understanding, and tolerance. Age may be the crucial variable in levels of tolerance. It is likely that mellowness and accepting attitudes are outgrowths of maturity.

This present study had subjects rate their reactions to handicapped individuals on a tolerance-intolerance scale. The mean ratings as a function of age will be the focus of the study. If a higher tolerance level can be shown to correlate with increasing years, it is obvious that our current educational programs will need reevaluation. In addition, the afflicted individual could be taught to anticipate certain confrontations and reduce rejection through preparation. For example, if one knows that a ten-year old will react to certain people with scorn, then the surprise will be diminished and, in turn, some of the torment can be reduced.

Age is a reoccurring variable in tolerance studies. Many of the studies focus on sex as well as age (Laine and Lehtenin, 1973). Coet and Tindall (1974) studied both, and although their findings were not significant, they suggested that stereotypes of handicaps may be related to societal values, as age and sex make the judgment. Differences have been found when sex and background are considered (Evans, 1974).

Tringo (1970) called for additional studies on both age and education as possible factors in differences in feelings of social distance towards handicapped people. One of his four hypotheses was that increased education results in increased acceptance of disability groups. Using his own Disability Social Distance Scale, he found insignificant results. This could have been the result of confounding variables, since five of his six groups consisted of college students, close in age.

The present study will attempt to reduce the overlap in ages by seeking random samples with a greater age span. The sample can also demonstrate a greater span of educational levels than reported in previous studies.

The primary purpose of the present study is to assess the levels of tolerance for a number of handicaps and establish age as its correlate.

METHOD

Subjects

The subjects were 20 visitors to an indoor tennis academy on the North Shore of Long Island. The twelve females and eight males, who were approached in the lobby and agreed to assist, were between 9 and 68 years of age. The rating sheet specifically asked them to not include their names and assured them of privacy. They were also asked for the last grade completed in school and for their sex. Two of the subjects neglected to add this information and were excluded from rank-order correlation for education.

Apparatus

A questionnaire was devised listing twenty handicaps, including mental, physical, and social afflictions, in alphabetical order. (Tringo, 1970). The scale for rating ran from one to five, most tolerable to least tolerable, and the mid-point was reserved for no reaction. Space for age, sex, and last grade completed was provided.

Procedure

The subjects were told to rate the afflictions listed, assuming they knew people with the conditions. If they asked about the extent of a condition, they were told to react to their own stereotype. The ratings for each subject were added up and the total sum was correlated with age in years.

Families of two and three generations volunteered for the study.

RESULTS

Spearman rank-order correlations computed for both the age-tolerance data, $\rho = .117$, $p < .05$, and on the education-tolerance data, $\rho = .190$,

$p < .05$, were not significant. This indicates that there is little or no change in the tolerance level as either of the two variables varies.

Each of the twenty subjects involved in the age-tolerance study rated all twenty of the afflictions by indicating a value for each from one to five. The possible extremes were 20 to 100, with 20 indicating the least tolerance and 100 indicating the most tolerance. The education-tolerance study was identical, except for 2 subjects who were dropped because they did not include their educational level. This action did not affect the possible extremes for each subject that did participate.

DISCUSSION

The original hypothesis which stated that tolerance was a development of the maturing process and would become increasingly evident as people aged was not supported. This may be related to sample bias since people that either played or enjoyed tennis were subjects. Family volunteers could be responsible for the similarity because attitudes may be shared by family members. Self-rating should also be examined since a person's actions may not support his predictions. A future study might consider measuring actual responses to handicaps.

The fact that this study did not support the findings of Tringo (1970) and Laine and Lehtinin (1973) concerning tolerance is not entirely surprising.

If neither education nor age can be found to change the attitudes or tolerance levels in our society, it is important that further research continue to investigate this area. Since the acceptance or rejection of handicaps has a great bearing on self-image and, in turn, on the afflicted individual's contribution to society, the importance of this issue should not be underestimated.

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DIAGNOSTIC VERBAL TEST OF MENTALLY RETARDED

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ABSTRACT

General physicians face problem when they deal with mentally retarded cases in their chamber regarding diagnosing their intellectual strength and weaknesses and had to refer the case to the Psychologists for assessing I.Q. for classification. Therefore a short, easy-type scoring, and quickly applicable diagnostic test of MRs would help them overcome the ordeal. Such a Diagnostic Verbal Test (DVT) had been constructed for immediate classification of MRs on the conception of 'g' factor of Spearman and Vernon where the model is of Mittler.

Initially constituted of 100 items against 10, 'used concept' of Vernon and 'process-content' heading of Mittler and applying the test on 50 randomly selected mild, moderate and severe MRs the final test was reduced to 50-itemed one through item-analysis. The reliability index was .96 and the validity coefficient was .80. Applying the final test on the same sample the mean and standard deviation were found to be 21.3 and 9.5 respectively. Taus MR obtaining score between 12 to 31 fall in moderate class, 32-50 in mild, and 0-11 in severe class.

The most widely used tests for measuring the deteriorated intelligence of the mentally retarded are Terman-Merrill Test (L & M forms) and Raven's Progressive Matrices tests. The former is the verbal and the later is the non-verbal abstract intelligence test. While by applying Terman-Merrill test (1937, 1960) intelligence quotient could be assessed, through progressive matrices individual's intelligence level can only be detected through percentile ranks. Obviously those two tests are very valid tests for measuring 'native intelligence' of the individual particularly the endowed general mental energy which is 'g', according to Spearman (1939).

The Terman-Merrill test is a verbal test but it has some items that involve manipulation of tasks. Besides, for busy clinicians it is a heavy time-consuming test. Progressive matrices test provides only an overall level of intelligence against normative scale but does not reveal impaired learning ability and acquisition experiences. It is, therefore, required to have a Diag-

nostic Verbal Test (DVT) for quick assessment of intelligence of Mentally Retarded, for clinical management where indication of strength and weakness of intellectual power is more immediately required to provide guidance and remedial undertakings.

As that laymen's idea, diagnostic test is the same thing as those the doctors comply with through X-ray, blood report of and such like to diagnose the disease. The clinical psychologists and GPS confront with the problem of diagnosing and classifying mentally retarded, in the clinic, if there is not a simple type of test is available to be administered and calculated the score in a short period in order to supplement retarded physical syndromes.

Thorndike and Hagen (1977) has given an operational definition of 'diagnostic test' as that 'what sharply focuses on some specific aspect of a skill or some specific cause of difficulty in acquiring a skill and that is useful in suggesting specific remedial actions that might help improve mastery of that skill'. According to them the development of diagnostic tests involves two steps : (i) analysis of the complex performance into its component sub-skills ; and (ii) to discriminate accurately areas of specific deficiency and not to appraise relative competence throughout the full range of ability.

Mental retardation is essentially connected with sub-average general intellectual functioning (Heber, 1959; American Psychiatric Association, 1968). Hence, when the cases are reported to the clinicians with varied maladaptive behaviours, it is essential to apply an intelligence test immediately to find out the level of intelligence. The aim of the investigators is to develop a short and simple type verbal intelligence test to help the clinicians where scoring system is also simple (either + 1 or 0). Through that the intellectual background can quickly be ascertained by even non-technical administrators.

The present diagnostic verbal test has been constituted by conceiving the concept of 'The Abilities of Man' presented by C. Spearman (1927), and Philip Vernon (1950).

In distinguishing the abilities of man, Spearman had commented that neither the *anarchic* nor what he calls the *monarchic* or *oligarchic* theories of the mind accord with the facts. The monarchic view reduces all abilities to a single capacity of general intelligence or 'common sense'. This would imply that they are all perfectly correlated and would make no allowance for the unevenness of peoples' abilities along different lines. The *oligarchic* theory is the view that the mind is ruled by a number of separate powers or faculties. Spearman with his two-factor theory (g and s) then satisfactorily explained the tendency for all abilities to overlap to some extent and yet to show considerable unevenness.

Vernon (1950) has amply confirmed the importance of g and brought out a feature which appears to be a high characteristic of mental structure, namely hierarchy. According to him it falls into two main groups : the verbal-numerical-educational on the one hand (referred to as v : ed factor) and the practical-mechanical-spatial-physical on the other hand (referred to as K : m factor) where first factors are verbal and educational abilities and the other are practical and performance abilities. The v : ed factors are then differentiated into more specific factors like Thurstone's (1948) verbal, number and space. Verbal intelligence test therefore contains the basis of abstract intelligence which is the ability to deal effectively with ideas expressed in symbols such as words, numbers, pictures, or diagrams. All children brought up in natural environment with normal brain pick up the above mentioned abstract ideas through their general mental abilities. Mentally retarded with arrested brain process have limitation to actualise symbolic presentation. The score obtained from a test based on such a symbolic combination would give the index of their intellectual adequacy and inadequacy.

CONSTRUCTION OF TEST

Peter Mittler (1973) pointing the works done by Linblinskaia (1957) had mentioned that due to pronounced pathological changes in the brain the MRs suffer from establishing connections between verbal instruction and manipulation of tasks. They pointed out that there is a clash between conceptual generalization and situationalization which brings learning difficulties. The limited retrievability and convertability bewilder the power of adequate grasping and coding-decoding fundamentalness of mental processes.

Mittler had distinguished the base of diagnostic verbal test into (i) the content of the item, and (ii) the main mental process involved. For example, the subject may be presented with a list of words and be asked to memorize them. The content of these two is the same (viz. words) but the mental process of memory and recognition are different. Similarly, if we are asked to classify separate series of words and of shapes, the mental process of classification is the same in the two tasks, but the content (words and shapes) is different. He, thus, presented seven processes combined with six types of content which yielded $7 \times 6 = 42$ categories of test. His seven verbal mental processes are (i) perception, (ii) memorization, (iii) recognition, (iv) conceptualization, (v) convergent reasoning classification, (vi) divergent reasoning creativity and (vii) convergent reasoning operational ; whose six types of content combinations are (a) shapes, (b) symbols, (c) numbers, (d) objects, (e) words, and (f) sentences.

Keeping the above theoretical background of mental processes and contents in mind 10 main headings were chosen against each of which 10 sub-tests

were constructed and through verifications by MRs a Diagnostic Verbal Test was prepared constituting 100 problems placing in order of difficulty against each heading. The headings are (1) Information, (2) Comprehension, (3) Opposite analogies, (4) Memory, (5) Recognition, (6) Similarity difference, (7) Reasoning, (8) Picture absurdities, (9) Problem situation, and (10) Missing part (in a picture).

METHOD

SAMPLE

The constructed verbal test was applied on randomly chosen 50 mentally retarded from BODHIPEET (an institution for mentally retarded in Calcutta). The subjects were scheduled irrespective of sex but of matched age (Age Mean 13.9, SD 1.3) and duration of institutionalization (more than 2 years and less than 3 years). Samples having physical anomalies and stigmata, significant speech defect and conspicuous aggressive symptoms were avoided.

PROCEDURE

The application of test was completed in a single session by occasional light coaxing and continued rewarding for each correct answer. Although there was no scheduled time limit, however, the administration of test could be completed within 30-40 minutes.

For right response the item was given a score of 1 and for wrong 0. Then the summation of scores of each item supplied the individual's test score. Maximum total score of the test was 100. The same was chosen for calculational easiness.

The individual I.Q. of the Ss. were measured by Terman-Merrill 'M' form.

RESULTS

The frequency distribution of the scores of Diagnostic Verbal Test was drawn to infer whether the distribution follows the characteristics of normal distribution curve. The curve was found to be Pearsonian where the sample Mean = 48.10, SD = 23.2 ; Standard Error of Mean (SEM) = 3.28 and the Standard Error of SD (Sse) = 2.32.

In Table 1 is presented the frequency characteristics of I.Q. of the sample against their DVT score distribution in respect of same class-interval ($i = 20$), where I.Q. distribution is negatively skewed which proves that the sample was constituted of more moderately retarded MRs.

Table 1

Showing frequency distribution of I.Q. and corresponding
DVT scores of 50 randomly chosen MRs

I.Q.		DVT Scores	
Class interval	f	Class-interval	f
80 — 99	2	81 — 100	4
60 — 79	12	61 — 80	12
40 — 59	18	41 — 60	15
20 — 39	18	21 — 40	12
Below 20	0	Below 21	7
Mean 48.7		Mean 48.1	
S.D. 17.4		S.D. 23.2	

A psychological test is a standardized instrument only when it signifies consistency of measurement i.e., reliability, and what it purports to measure i.e., validity.

Reliable test should give the same or nearly the same score when given at different times. Applying Kuder-Richardson formula 21 (Guilford, 1950) in order to treat test-retest scores the correlation found to be $r = .9631$ which is the index of reliability of the test. It is required that to make individual diagnosis the reliability co-efficient of the test for a single group should be .90 or higher. Since the reliability co-efficient of test is .96 the test is highly reliable.

The concurrent validity was determined by taking I.Q. determinant as criterion. By scatter diagram method between criterion IQ (Y) and DVT score (X) the coefficient of correlation was calculated and the result was $r = .80$. Thus, the two important characteristics of a test are satisfactorily fulfilled.

In the next step it was necessary to analyse each item in the standardization process in order to retain only those items that suit the purposes and rationale of the device. The typical item analysis of a test of ability yields two kinds of information : (i) index of item difficulty and (ii) index of item validity. Based on the percentage of subject's correctly answered or wrongly answered items and on consideration of criterion score (i.e., total score) the appropriate measure of item validity was point-biserial correlation (r_{pbis}) following which less discriminative to most discriminative items could be eliminated from the test. The r_{pbis} results are presented in Tables 2 to 11 against each heading.

Table 2

Shows item validity values obtained by pbis.
and ranking of the same

INFORMATION

Item No	pbis value of each item	Item No of eliminated items	Rearrangement according to increasing order of difficulty	
			Item No	Rank order
1	.48	1	8	1
2	.71		6	2
3	.80		9	3
4	.37	4	10	4
5	.40	5	2	5
6	.57		3	6
7	.32	7		
8	.50			
9	.67			
10	.69			

Table 3

COMPREHENSION

Item No	pbis value of each item	Item No of eliminated items	Rearrangement according to increasing order of difficulty	
			Item No	Rank order
11	.48	11	16	1.5
12	.64		18	1.5
13	.48	13	12	3.0
14	.73		19	4.0
15	.68		20	5.0
16	.63		17	6.0
17	.67		15	7.0
18	.63		14	8.0
19	.65			
20	.66			

Table 4

OPPOSITE ANALOGIES

Item No	rbis value of each item	Item No of eliminated items	Rearrangement according to increasing order of difficulty
			Item No Rank order
21	.78		23 1.5
22	.40	22	14 1.5
23	.51	22	29 3.0
24	.51	23	26 4.0
25	.65	23	25 5.0
26	.62	23	28 6.0
27	.33	27	21 7.0
28	.66	27	
29	.57	27	
30	.44	30	

Table 5

MEMORY :

Item No	rbis value of each item	Item No of eliminated items	Rearrangement according to increasing order of difficulty
			Item No Rank order
31	.56		31 1.5
32	.56		32 1.5
33	.64		33 3.0
34	.35	34	38 4.0
35	.44	35	37 5.5
36	.01	36	40 5.5
37	.73		
38	.66		
39	.41	39	
40	.73		

Table 6

RECOGNITION :

Item No	rpbis value of each item	Item No of eliminated items	Rearrangement according to increasing order of difficulty	
			Item No	Rank order
41	.58		43	1
42	.55		48	2
43	.51		46	3
44	.64		42	4
45	.64		49	5
46	.54		41	6
47	.45	47	44	7.5
48	.53		45	7.5
49	.57			
50	.29	50		

Table 7

SIMILARITY DIFFERENCES

Item No	rpbis value of each item	Item No of eliminated items	Rearrangement according to increasing order of difficulty	
			Item No	Rank order
51	.52		51	1
52	.53		52	2.5
53	.58		58	2.5
54	.49	54	56	4
55	.39	55	53	5
56	.56		57	6
57	.98			
58	.53			
59	.34	59		
60	.45	60		

Table 8

REASONING

Item No	rpbis value of each item	Item No of eliminated items	Rearrangement according to increasing order of difficulty	
			Item No	Rank order
61	.73		64	1
62	.65		69	2
63	.77		66	3.5
64	.50		67	3.5
65	.56		65	5
66	.54		68	6
67	.54		62	7
68	.58		70	8
69	.51		61	9
70	.69		63	10

Table 9

PICTURE ABSURDITIES

Item No	rpbis value of each item	Item No of eliminated items	Rearrangement according to increasing order of difficulty	
			Item No	Rank order
71	.50		71	1.5
72	.54		76	1.5
73	.58		78	3
74	.44	74	72	4
75	.47	75	73	5
76	.50			
77	.27	77		
78	.51			
79	.28	79		
80	.31	80		

Table 10

PROBLEM SITUATION

Item No	rpbis value of each item	Item No of eliminated items	Rearrangement according to increasing order of difficulty	
			Item No	Rank order
81	.72		87	1
82	.65		84	2
83	.79		82	3
84	.62		85	4
85	.66		89	5
86	.68		86	6
87	.55		88	7
88	.69		90	8
89	.67		81	9
90	.71		83	10

Table 11

MISSING PARTS

Item No	rpbis value of each item	Item No of eliminated items	Rearrangement according to increasing order of difficulty	
			Item No	Rank order
91	.64		95	1
92	.74		94	2.5
93	.59		100	2.5
94	.51		96	4
95	.50		93	5
96	.58		91	6
97	.78		92	7
98	.48	98	97	8
99	.48	99		
100	.51			

DISCUSSION

Exploring Tables 2 to 11 it was found that there were 4-items required to be eliminated under the heading 'Information' considering discriminative value less than .50. In the same way 2 items were eliminated from 'Comprehension'. In 'Opposite analogies' 3 items and under 'Memory' 4 items were rejected. 'Recognition' had elimination of 2 items. Under 'Similarity difference' 4-items were rejected. 'Reasoning and Problem situation' heading was uniquely constituted as not a single item was eliminated from the category, whereas 'Picture absurdities' suffered a major set back as 5 items were eliminated from that group. These items were very difficult for concerned MRs as very few Ss obtained scores on those. The last heading 'Missing Parts' eliminated 2 items only.

Thus, altogether 24 items out of original 100, need have to be eliminated and the test becomes to be composed of 76 items.

As it has been discussed earlier that the basic aim of developing the present test is to provide scope to the clinician to scan the intellectual functioning of the MRs within a very short-time with a short test and in a easy scoring system ; from the present study DVT is intended to be constituted of 50-itemed test. By that the clinicians would be able to assess the general mental ability of the MR cases within 20 minutes.

The final test would, therefore, be consisted of first 5-rank order items according to last column of each table (Tables 2 to 11) which are arranged in order of difficulty. Thus, a reliable and valid diagnostic verbal test was developed to assess the intelligence level of mentally retarded.

CONCLUSION

By applying DVT not only the physicians would get an index of intellectual functioning of the MRs but also simultaneously would be able to approximately classify the case into the 3 broad classes of MRs which is as follows :

DVT score range	Classification
32 — 50	Mildly retarded
12 — 31	Moderately retarded
0 — 11	Severely retarded

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FUNCTIONAL EDUCATION AND INTEGRATED RURAL DEVELOPMENT

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ABSTRACT

The article advances a new way of thinking in the existing pattern of education, particularly for the rural India; having a deviation from the Macauley's System of Education. It conceptualizes that the integrated rural development can be achieved only if the rural education is translated and transplanted in rural settings and rural soil. The rural education should emerge from and grow in rural ecology and environment. It can reap the best fruit for the national development if it is cultivated and created in the rural economy through accumulated experiences of rural life and living. It is futile to make the rural students run the competitive race on the urban grounds under urban climatology and conditions. Optimum attainments by rural pupils can be made if they are allowed to compete with their representative samples. The existing rural education, therefore, needs a rethinking in the light of changing national policy and political philosophy.

Material prosperity which is one of the most essential aims of the human beings in the present world is a function of both the availability of material resources and optimum utilization of human potentiality. The progress of a nation largely depends upon the national productivity which could be surprisingly enhanced by application of scientific methods and appropriate technology. The rural development is no exception to this basic principle of material prosperity. It is, therefore, in the fitness of things to design and develop the science and technical education for rural India in such a way that may emerge from the soil itself; and should be nourished and nurtured out of the rural climate and culture, condition and control so that it may be maximally useful for the rural folk. The success of any system depends upon the active participation and confidence in it of the common people. MauCall's system of English Education does not suit at all to the rural culture. Rather, it promotes dependent prone personality, segregation from the rural society, disliking for dignity of labour, and liking for white color jobs. Consequently, the existing system of education in rural India needs a radical change, structurally and functionally both. Since scientific methods and technology accelerate productivity, it should be incorporated as essential aspects of rural educational system. The rural science education and rural technology should be designed in accordance with the socio-cultural needs and should meet the agricultural demands of the rural folk and developed out of local human potentiality and material resources.

In the light of all these limitations of the present Educational System, it is worthwhile to introduce a need-ability based educational system for the rural India which lives in Villages; having base in agriculture or in forestry. Realization of dignity of productive labour useful for the villages must be the central feature of this education.

The integrated rural development can be said to be a function of systematic and sound introduction and implementation of integrated science education and rural technology in such a way that the village youth themselves be, in course of time, the leaders of such disciplines. Inculcation, creation and promotion of leadership in integrated science education and rural technology must be the ultimate aim of rural educational system. In this respect, it is believed that a parallel form of rural educational institutions right from rural elementary school to rural university should be developed with their own separate autonomy and structure and functional identity, and the unit of present system of territorial educational administration should be shifted to a more homogeneous cultural environment unit of educational administration based upon rural needs, demands, ability and aspiration. Perhaps, homogeneity in rural cultural environment and need, and ability of rural pupils constitute a better parameter of competition for the rural pupils, who can then play a better effective, productive role in the national development thereby deriving more satisfaction from their life and work and then prove successful citizens of the rural India.

The integrated science education and rural technology for the rural schooling should include the following course contents; developed out of local human and material resources and rural needs and demands.

(i) *Agricultural Sciences*

- (a) Chemistry
- (b) Plant Pathology
- (c) Plant diseases
- (d) Pollution Mechanism
- (e) Botany
- (f) Bio-chemistry
- (g) Fertilizer Processing
- (h) Scientific out-look in agricultural process

(ii) *Veterinary Sciences*

- (a) Zoology
- (c) Dairy Farming process
- (e) Animal Husbandry
- (b) Cattle Rearing
- (d) Poultry

- (iii) *Elementary Medical Science*
 - (a) First Aid
 - (b) Elementary Knowledge and cure of some important diseases
- (iv) *Basic Rural Technology*
 - (a) Gobar Gas Plants
 - (b) Pits for manure
 - (c) Human engineering factors used in Designing instruments for agricultural use,—plough, kopar, bullock card, etc.
 - (d) Techniques of constructing Road, Kawai Houses, bathing wells, etc.
 - (e) Tube Wells, Tank
 - (f) Irrigation canals
- (v) *Geography and Geology*
 - (a) Aerial photo interpretation, village survey
 - (b) Soil Testing and composition
 - (c) Soil Conservation
 - (d) Science of soil—seed-fertilizer combination and co-ordination
 - (e) Analysis of composition of soil
 - (f) Survey of under ground water in the local vicinity and its maximum use
- (vi) *Agricultural Economic*
 - (a) Agricultural labour
 - (b) Female labour force
 - (c) Workers' participation in management

The integrated rural science and technology which have been visualized should be functionally different from the course that we are having today. It should not be an imported and transplanted elements of knowledge and skills from pure sciences ; but should be developed, nourished and nurtured out of local resources, based upon rural needs, right from afresh. This requires an analysis of local resources, human and material, rural needs and demands of people.

If the village pupils are well equipped with these rural scientific knowledge and technological skills, they can render better services to the village community at large. They can develop job-satisfaction by being a leader in either of the agriculture oriented rural science and technology ; and can prove themselves to be the productive organ of the village community, upon whom their parents can depend. Unless and until, the villagers develop confidence over any system of education, they are not going to send their children gladly to school since their children bring better material satisfaction to them by being in the fields ; and by supporting their parents in earning daily wages.

Thus, this paper high-lights three important changes in the village schooling :

- (i) to shift the unit of territorial administrative educational system to a unit of homogeneous-culture-need-ability based parallel rural educational institutions from elementary to University level ;
- (ii) to introduce and implement integrated rural science and technology developed out of local resources and designed in accordance with local rural needs and demands, which may equip the village youths to enhance productivity-human and material. The agriculture-oriented tribal belts should introduce such learning-experiences in their educational institutions as may bring the maximum productivity and satisfaction. In this respect, some elementary knowledge of agricultural sciences and irrigation, veterinary sciences, elementary medical science, Geography and Geology, biochemistry, plant pathology, and basic rural technology are essential, in addition to agricultural economics. The main aim in imparting such learning experiences should be to make them independent to a certain extent in solving some of the basic problems of their daily socio-economic life and occupations and to derive maximum satisfaction out of it. Feeling of satisfaction in life and at work would not only promote national productivity, but equip them with greater achievement motivation, higher level of aspiration and elevating morale which will help them in promoting in them the feeling of leadership ;
- (iii) to inculcate and create leadership in the different fields of agriculture and forestry ; the technical know-how which can be easily and economically learnt by them. Obviously, if adequate opportunities are made available to them, they can prove themselves to be better service personnel in agriculture and forestry ; and design better productive plans than what the experts disciplined in urban institutions do. The national productivity can be surprisingly raised by optimum exploitation of the human and material resources and this is possible when the educational institutions are raised on homogeneous-culture-need-ability aspiration base units.

The science and technology for rural India should be developed out of rural soil and should be nourished and nurtured by rural pupils, which provides sufficient opportunity to compete in the know-how among themselves. It is a bare fact that the village pupils can hardly have enough capacity and ability to compete with the city pupils in different fields of knowledges. Consequently, the failure inculcates frustration ; thereby developing inferiority complex in them. It is, therefore, desirable to institute rural educational

institution separately with the primary aim of promoting integrated rural science and technology appropriate for integrated rural development.

In view of the serious limitations in the present system of education, the following salient features should be incorporated in science education :

- (1) That the educational system should reflect the spirit of democracy, and should be designed and developed out of the aspirations, needs, demands and problems of the masses of India ; thereby making science education too a true representative of the nation.
- (2) That science education should grow out of the needs and aspirations of the people of India, and should be designed in accordance with the local human as well as material resources.
- (3) That science education for rural India should reflect the agriculture or forestry base course-content by exploiting the local human as well as material resources and should be primarily functional and utilitarian in nature so that the rural community may develop confidence in the scientific contributions and the scientists and direct their ego involvement to that direction.
- (4) That attempts should be made to create leadership in different disciplines from the soil itself, and the 'catching up' process in tools, techniques and expertship should be gradually minimized from the urban areas. Rural science and rural technology should be natured, nurtured and nourished from the rural soil and climate.
- (5) That academic and social norms and values among the rural community should be so inculcated, designed and developed as to confer the status on par with the urban society so far as placement in life and vocations are concerned. Academic and social norms should be moulded to meet these goals of science education. The status of these village leaders in various fields of knowledge and skill in agriculture and forestry should be duly recognized by Government and non-Government agencies by way of their participation as experts and consultants in different committees and commissions.
- (6) That ego-involvement on the part of the rural folk should be inculcated by employing various techniques of propaganda and change in public opinion.

For an effective organization and implementation of such integrated rural science education and rural technology, the village educational

institution should be invariably linked not only with the village community but with other Government departments engaged in agriculture work—like agriculture experts, veterinary hospitals, medical hospitals, irrigation departments etc., and should be considered as community-centre schools. For an effective execution, there should be coordination between rural educational authorities, the villagers and the Government officials dealing with agriculture, forestry, irrigation, veterinary and medicals. The technical know-how of these Government personnels should be a constant flow of regular function, however, when the rural leaders develop competency, the consultancy cell as a regular feature of rural education should be organized ; and this move would promote rural school as a community-centre in reality.

Unless and until, the village creative leaders take up the entire liabilities and assets, process of growth and development in their own hands neither the imported techniques and tools, nor the imported village service personnel, nor the imported and transplanted learning experiences in village schools and colleges can solve the total problem of integrated rural development and rural folk-welfare in particular, and the national development in general. It is neither logical nor psychological to make the 80% population of rural India of low achievement motivation who are significantly backward in their abilities and aptitudes to compete with the 20% population of urban India for whom at present the entire educational system stands. The radical change in educational system demands a reflexion of the norms and values of major society i.e. rural India in the educational system. An educational system with rural base ideology and policy rather than the urban-base as exists today is the only true representation of democracy in education. Even in practice the educational system should represent the man, rather than the class of India. Competition prevails among equalized and parallel groups ; and therefore there is a great need to develop need-ability base schooling and professionalizing competitive system as an integrated part of educational system in India. The rural science education should be primarily utilitarian in character, and practical in operation. Such a science education has its relevance to the extent it meets the needs and demands of rural people and helps them effectively in their productivity and material prosperity.

METAPHORICAL MODELS IN MARX'S 'CAPITAL'

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ABSTRACT

Apart from using analytical models, social scientists often use metaphorical models as well. The object of the present paper is to examine the types of metaphorical models Marx uses in his 'Capital' and the rationale behind his use of such models. The metaphorical models, the paper contends, are used by Marx for explication rather than explanation, and belong to the method of presentation rather than the method of inquiry.

Marx seeks to make a strictly scientific study of the capitalist system. And in his 'Capital' he naturally takes nothing for granted, but proceeds towards an explanation of the functioning of the capitalist economy exclusively on the basis of empirical data and firmly adhering to logical reasoning. It is this fact that accounts for the enormous time and labour that went into its writing. It is this fact, again, which makes 'Capital' a rather stiff and tough text for those who are unwilling or unable to study it sequentially.

The basic model of Marx's 'Capital' is, of course, an analytical model, a model of capitalism that postulates regular patterns of co-variation among variables, with the purpose of establishing causal explanations. Such analytical models are the chief vehicle used by social science to explain social phenomena, and Marx's analytical model of capitalism is undoubtedly the one that has most profoundly affected all subsequent social scientific thought on capitalism. But along with this analytical model, Marx uses metaphorical models also in many places of his 'Capital', and the object of the present paper is to examine the nature and significance of these metaphorical models in Marx's magnum opus.

The use of metaphors as an aid to conception and expression of ideas has continued from the hoary past. As Nisbet rightly says, "Metaphor is a way of knowing—one of the oldest, most deeply embedded, even indispensable ways of knowing in the history of human consciousness" (Nisbet, 1969). Social scientists have extensively used this old way of knowing and expression in their writings. Metaphors have been used by them to use a distinction made by Galt and Smith for *explication* rather than *explanation* (Galt and Smith, 1976). While explanation accounts for the patterned relation of variables, explication seeks to make phenomena clear and more readily graspable by performing intellectual operations which illustrate, illumine or sub-divide them. The

analytical models are explanatory devices. The metaphorical models, on the other hand, are explicatory devices.

Metaphors are devices for condensing complex phenomena into graspable and communicative constructs. The essence of a metaphor is the direct likening of the characteristics of one object, phenomenon, or process to another which is more easily understandable by the readers or listeners. The similitude, the analogy, the allegory, etc. of course, differ from the metaphor as figures of speech, each having its own special characteristics. But, broadly speaking, all these figures of speech resemble one another in one respect, namely, one thing is made more easily understandable by likening it to another with which people are more acquainted. For our present purpose, we shall use the term 'metaphor' to include similitude, analogy and allegory as well.

Most, if not all, social scientists use metaphorical models, such as the organic model, the role model, the game model, and such like in their writings. Marx is no exception. Marx has used metaphorical models with great effect in bringing the truth of his analytical models home to his readers. There is nothing wrong with the use of metaphorical models by a social scientist as long as he does not seek to suggest through his metaphor propositions which are empirically inaccurate as descriptions of reality. Thus, if the organic metaphor is used to create the impression that society is really an organism it is plainly harmful to the cause of true knowledge, and a social scientist using it that way is doing positive disservice to social science. A metaphor could, however, be used, as Galt and Smith point out, "for conceptualising, communicating, and generalising from already empirically verified scientific propositions" (Galt and Smith, 1976). Marx uses metaphors in this way, that is, to vividly communicate truths which have been found out through empirical verification and logical reasoning. The truth of Marx's contentions does not depend on the comparison suggested by his metaphors; rather the aptness of the comparison suggested by his metaphors depends on the verified truth of his contentions.

Marx presents about fifty metaphorical models in his 'Capital', some direct and condensed in two or three words, some a little elaborate and qualified by 'like' and 'as'; but nowhere does he resort to an allegory like the ones in say 'The Holy Family'. Marx's metaphors in 'Capital' may be broadly classified, contentwise, into the followings types—

1. Bio-organic (comparison with animals, birds, insects, plants, birth, death, etc.),
2. Techno-scientific (comparison with machines, forces of nature, natural objects, chemical processes, sources of power, etc.),
3. Mytho-religious (comparison with deities, demons, gospels, heaven, hell, etc.),
4. Socio-psychological (comparison with forms of organisation, attitude, institution,

etc.) and 5. Politico-historical (comparison with political personalities, historical events, leaders, wars, treaties, etc.).

Of these five types of metaphors, Marx makes the maximum use of the Bio-organic one in his 'Capital'. He uses the metaphor of the hot house twice. The economy of the social means of production is matured "as in a hot house" by the factory system (Marx, 1959). The colonial system ripened, "like a hot house", trade and navigation. Drawing his metaphor from the world of plants, he likens profit, ground rent and wage to "the annually consumable fruits of a perennial tree, or rather three trees" [namely, capital, land and labour-power]. Like the sprouting of a plant from a seed, a time comes when the 'integument' of capitalism is burst asunder. Drawing analogies from the world of animals, Marx compares the unrestrainable passion of capital for surplus labour to "were-wolf hunger". What happens in the stock exchange is like "the little fish being swallowed by the sharks, and lambs by the stock-exchange wolves". Marx uses the metaphor of the spider in two contexts. Once, to draw a parallel between the accumulation of the weaving skill by the Hindu weavers and the spiders through practice, generation after generation; and again to describe the ruination of the peasants by being enmeshed in "the spider-web of usury." The influx of a large number of poor people from the countryside, to the industrial towns in search for employment in industries is a common feature in capitalist industrialisation. Marx compares this influx to "a swarm of locusts". Just as a living creature is born, emerging from its mother's womb, all of labour's social productive forces appear to issue from "the womb of capital", though these are really the product of labour rather than capital. Just as a human being advances with the passage of every day towards his death, similarly an instrument of production with the passage of every day moves nearer to the time when it will become unusable.

Mytho-religious metaphors are also frequently used in the 'Capital'. Modern society "greet[s] gold as its Holy Grail". In hoarders of money Marx sees a "Sisiphuslike labour of accumulating". And the hoarder makes a sacrifice of the lusts of the flesh to his gold-fetish, and "acts in earnest up to the Gospel of abstention". The motley crowd of over-worked labourers "press on us more busily than the souls of the slain on Ulysses". Division of labour springs ready-made from "the Jovian head" of the capitalist. Primitive accumulation plays in political economy "about the same part as original sin in theology", "the monetary system, "as Marx views it, "is essentially a Catholic institution, the credit system is essentially Protestant".

Marx also uses a number of techno-scientific metaphors in explicating his findings. He compares automation, the most developed form of production by machinery, as "a mechanical monster whose body fills whole factories, and whose demon-power, at first veiled under the slow and measured motions of his giant limbs, at length breaks out into the fast and furious whirl of his countless working organs". This metaphor, which is a combination of techno-scientific, bio-organic and mytho-religious elements, very vividly brings out the character of "an organised system of machines, to which motion is communicated by the transmitting mechanism from a central automation" (Vol. I, p. 381-82). Marx points out that the 'labour' of the capitalists in buying and selling (C-M and M-C) does not add to the value of commodities, and compares this to combustion. "This work of combustion does not generate any heat, although it is a necessary element in the process of combustion" (Vol. II, p. 130). He compares the accuracy of the stock exchange reports in denoting the rate of interest for loanable capital with the accuracy of meteorological reports in denoting the readings of the barometer and the thermometer" (Vol. III, p. 360). The influence of the export and import of gold is felt, Marx points out, not so much because of their quantity as such, but because of their marginal-effect, just as the addition of a feather to the weight on the scale "suffices to tilt the oscillating balance definitely to one side (Vol. III, p. 558). Again, "capital is a perennial pumping machine of surplus labour for the capitalist" (Vol. III, p. 801).

Socio-psychological metaphors have been used in 'Capital' only in a few places. Capitalist exploitation has been compared with robbery. "Economy of the social means of production is turned in the hands of capital, into systematic robbery of what is necessary for the life of the workman..." (Vol. I, p. 427). Again, "Merchant's capital, when it holds a position of dominance, stands every where for a system of robbery" (Vol. III, p. 325). There are a number of references to the resemblance of the working class to an army. "Barrack discipline" is "elaborated into a complete system in the factory," and the working people are divided into operatives and overlookers, "into private soldiers and sergeants of an industrial army" (Vol. I, p. 423-24). Pointing out that the capitalist mode of production has brought matters to a point where the capitalist need not any longer perform the work of supervision himself, Marx compares the supervisors of capitalist production to an orchestra conductor who "need not own the instruments of his orchestra, nor is it within the scope of his duties as conductor to have anything to do with the 'wages' of the other musicians" (Vol. III, p. 379).

Though in some of his other writings, Marx has made a liberal use of politico-historical metaphors, in his 'Capital' he uses such a metaphor on very few occasions. One such occasion is when he says—"...the factory Lycurgus so arranges matters that a violation of his laws is, if possible, more profitable to him than the keeping of them" (Vol. I, p. 424).

In the 'Afterword' to the second German edition of 'Capital', Marx makes a distinction between the method of inquiry and the method of presentation. The method of enquiry consists of appropriating the material in detail, analysing its different forms of development, and tracing out their inner connection. It is only when the inquiry is over, that the findings of the inquiry can be presented. If the presentation is properly done, "the subject-matter is ideally reflected as in a mirror", and it appears to the readers as if they have before them "a mere apriori construction". As such metaphors cannot form any part of the method of enquiry. They can play a role only in the method of presentation. And Marx certainly uses them that way. He presents the findings of his inquiry into the dynamics of society, of course, not solely through metaphorical models. He uses a vast mass of empirical data, a strictly logical reasoning, a series of cogent concepts, and an array of linguistic devices to ensure that the subject-matter is ideally reflected as in a mirror. But he also uses metaphorical models with the same aim in view, and the use of metaphors to make his points clear to his readers adds a visual dimension to his presentation and facilitates the communication of his findings. That capital yields profit is a verifiable and verified fact. But presenting capital as a tree and profit as its perennial fruit, makes it easier for the reader, who is naturally acquainted with the tree-fruit relation, to grasp the connection between capital and profit. Similarly, the fact that in capitalist industry, factory organisation is hierarchical and factory discipline is harsh, could be established with adequate empirical data by a researcher. But highlighting the similarity between the working class and the army, at once brings within our view a more vivid picture of the life, work and class-battles of the workers than what the most comprehensive statistical data could ever convey. In the same way, the use of mythological and religious concepts facilitates the communication of ideas because these concepts are so widely known among the readers that drawing an analogy between an economic category and a mytho-religious one brings that economic category within the comprehension of the readers more quickly and easily. Presenting gold as the Holy Grail of modern society, for example, makes it easier for the readers to grasp the mystic significance of gold in the bourgeois economy. The techno-scientific metaphors are no less effective in aiding communication of ideas. What could be more suggestive of the nature of capital than to describe capital as a perennial pumping machine of surplus labour for the capitalist? And what a suggestive sarcasm is involved in the politico-historical reference to the ancient law-giver Lycurgus in the expression "factory Lycurgus"!

The metaphorical models in Marx's 'Capital', thus, make no near contribution towards an effective presentation of his economic analysis. Therein lie their value and importance. They do not constitute rudiments

of theoretical constructs which could be elaborated into fullfledged theorems of identity between say the working class and the army, or the primitive accumulation and the original sin, or capital and the pumping machine. If Marx sought to establish such identities that would be clearly unwarranted and unscientific, and hence totally wrong, then he does not put metaphorical models to such a use. With him, the metaphorical models are subordinate and supplementary to his basic dialectical, analytical model of the capitalist economy, and not distractions to or deviations from his strictly scientific line of reasoning. Hence it will not be impermissible to conclude this paper on metaphorical models with a metaphor. Marx's metaphorical models are the flesh which enlivens the skeletal structure of his analytical model of the capitalist economy.

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EDUCATIONAL PSYCHOLOGY FROM THE STANDPOINT OF A MARXIST

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ABSTRACT

The paper speaks of some concepts of educational psychology as is viewed and practised in the Communist world. The theme taken up in elaboration encompasses the characteristics of educational psychology, child development, recent experiments on learning, personality and society, and methods of character education. One most important aspect that is highlighted in this paper is the attempt adopted both by the Communist and non-Communist nations to reduce the parental influences upon children.

GENERAL BACKGROUND

In the world Marxism started its journey from the land of Soviet Russia. Communists, advocates of Marxism, viewed educational psychology from the works of Marx, Lenin, Stalin and other propagators of Marxism. They all put stress on studying individuals in the domain of education from the viewpoint of "Physiology" other than "Psychology".

One of the early pioneers in educational psychology was Konstantin Ushinski. It was he who tried to introduce in Russia some basic concepts of psychology, especially those which he found in Germany and Switzerland. But he did not create new concepts or a school of psychology. He merely emphasised the importance for "the human soul to read psychological works which may help him develop his own psychological foundations". Ushinsk also wrote about the task of psychology, which should study the human soul, the nature of the environment and the scientific definitions of human nature.

Another group of physiologists and psychologists in Russia—Bekhterev, Sechenov and Pavlov—were engaged in the behaviouristic study of psychological phenomena. Bekhterev and Sechenov were the first Marxian scientists who were concerned with the study of human reflexes and their importance in the field of psychology. Sechenov wrote a book, '*Reflexes of the Brain*', which provides the foundations for modern psychology in the communist countries.

The Marxian psychologists maintain that Sechenov's work represents an unbreakable chain between the Marxian philosophy of materialism and the experimental psychology of his time. However, Sechenov himself was not interested in whether a certain philosophy was materialistic or idealistic. He was concerned about its application in various fields of human endeavour. His name is quite frequently cited by the Marxian psychologists (if only for the reason that the communists want to associate the science of modern psychology with the Russian political aims) and the physiologists. In the Marxian conception psychology and physiology are inseparable chain in studying human behaviour. The communists also claim that Sechenov is "the first man in the history of mankind to define exactly and materialistically the field of psychology" (Smirnov, 1961). It is true that Sechenov advocated the theory of psycho-physical unity, according to which psychological phenomena can exist only when given certain materialistic conditions. At the same time he underlined the fact that psychological and physical forms are related to each other, but rather represent two different forms.

Obviously, Sechenov did not separate the man from matter, neither did he go to an extreme position in contrasting the physical sphere of influence with psychological area of activities. The unity between the two exists but one is not the same as the other. Furthermore, Sechenov by his philosophical convictions was a mixture of realist-naturalist and he asserted that psychological appearances (phenomena) represent by far a greater puzzle for the naturalist than for the philosopher-humanist. He further insisted that modern science does not contain a single formula or a single law which would prove that matter is the basis of all existence. He spoke about his reflexes as types of scientific hypotheses but never as scientific laws. According to Sechenov, reflexes of the brain are types of typical psychological phenomena which reflect human thought and human passion, but they do not necessarily appear in some definite spot in the human body.

Other Marxian psychologists and physiologists who worked much in these fields are man like A. M. Butlerov, V. Markovnikov, D. Mendeleev, A. Stoleto, N. Umov, and the most important, I. P. Pavlov. Almost all of them were concerned with the idea of *matter*, *motion* and *spirit* as the bases of human existence.

Pavlov, as it is known, was interested in physiological research and conducted various experiments in this field on animals, especially dogs. He studied his animals systematically from the very beginning of their lives until the end, collecting and analysing the data he obtained. Like Sechenov, he maintained that any psychological response is impossible without some sort of stimulus and that human behaviour as well as animal behaviour must be associated with conditioned reflexes. The behaviour of man and animal

alike is conditioned not only by their nervous systems but also by various circumstances which affect the organisms during a certain activity, i.e., there is always a continuous learning process. Therefore, an unconditional reaction (that is, the unconditional reflex) appears very seldom since the organism always acts in context with the surrounding environment.

Pavlov, also worked on the interrelationship of the two signal systems (the first and the second signal systems) and their importance in studying the higher nervous system in small children. He further wanted to conduct extensive research on the independence of two types of higher nervous system vs. the environment. But Pavlov made it clear that the experiments conducted by him on animals were not always applicable to human beings, particularly to small children. He asserted that one could not be limited to a knowledge of physiological disciplines because there existed many non-physiological phenomena which influenced the psyche of the individual.

Further experiments in the field of Pavlovian Behaviourism were conducted during the early period of the Soviet regime when Pavlov himself was in charge of behaviouristic research in Leningrad. S. L. Rubinstein tried to apply Pavlovian principles to character education and to indoctrination in the Soviet way of life (Levitov, 1959). However, psychology as used and viewed by the Soviet psychologists and physiologists is not merely political manipulation. It is rather a combination of many social and scientific forces aimed at changing the behaviour of man. It is, therefore, necessary to pinpoint briefly its salient features.

CHARACTERISTICS OF EDUCATIONAL PSYCHOLOGY

The first characteristic of psychology as adopted in the communist world is its *Russian* content in every scientific investigation. The psychologists in the communist world, besides following the various political directives are required to extol Russian science *per se* before they can study other scientific contributions in the field of psychology. One who studies this psychology cannot help noticing the extreme emphasis on Russian contributions to psychological science, mainly the contribution of Pavlov. In the communist countries this very psychology is being applied totally to the education of the new generation.

The second feature of this psychology is its emphasis on the scientific investigation. It has come to the point that many observers in the socialist and non-socialist countries tend to believe that science is the religion of the communist world. There is no question that such an attitude is entirely in line with the main philosophy of Dialectical Materialism since new psychological investigations reject anything that could be associated with spiritual

entities. Marxism views man as the product of his environment. Hence society is responsible for man's character and behaviour rather than man's being responsible for society.

The communist saw a great deal of promise in the use of scientific methods of psychology in solving social problems. But no resultant attempt has yet been taken up to evolve psychological theories or develop new psychological concepts. Instead the psychologists in the communist countries have concentrated on Pavlovian findings and trying to prove that Pavlov was right.

The third feature is the excessive emphasis on the environment instead of the individual in general. The individual is merely the product of his environment. Yet the slow learners and the mentally retarded children are not at all provided with proper psychological care. Pavlovian psychology is being practised to an extreme in attempting to reduce all human and infra-human behaviour to primary reflexes. To the communists theories of behaviour must be deterministic, dialectical, materialistic and most of all must view psychological phenomena from the point of view of genetic and environmental forces. The responsibility of man's action and the shape of his character are entirely attributed to the environment.

The fourth characteristic of this psychology is its concentration on the ideas of consciousness and self-consciousness. This, in a way, serves a useful purpose in the area of discipline and self-discipline. It has resulted in the complete rejection of psychological tests and in the whole area of industrial and management psychology.

These motives of consciousness and self-consciousness have helped to reduce the extreme application of environmental factors. At present the communist countries are changing the old two factor development theory—nature and nurture—and are replacing it with theories having three or four factors : inheritance, environment, training and self-training.

Finally, in addition to the above mentioned characteristics, the following features are important :—

- a) emphasis is placed on natural experiments with application to concrete and practical problems ;
- b) work and experiments are selected for their practicality, utility and application to educational matters ;
- c) there is a complete lack of psychometric investigations ;
- d) animal psychology is quite limited except for the Pavlovian oriented research (on dogs) ;

- e) psychopathology (abnormal psychology) is classified as a branch of medicine, because there is supposed to be no continuity between psychology and psychiatry ;
- f) the field of sensation and perception (psychophysics) receives more than ordinary attention in general psychology.

In general, it is frequently noticed that students are unable to put their theories into practice, their creativity into useful deeds or their psychological knowledge into actual application (Menshunskeia, 1960, and Brozek, 1962).

CHILD DEVELOPMENT

Psychologists in the communist world must know the ideas of Lenin about child development before they can study the subject from psychological or biological point of view. For example, Lenin's theory about the 'destruction of the old and the appearance of the new' is the first 'scientific' formula that Levitov (1959) has used in determining the 'dialectic-materialistic conception of child development.'

According to this theory of the dialectic-materialistic world outlook, child development — like any other development — occurs in the struggle of contradictions, i.e., when the new forms of life appear, the old ones must be overcome or destroyed. In this process old forms sometimes might be utilised in order to make new forms stronger.

The psychologists in the communist world divide the development of a child into the following stages : infancy ; the pre-school years ; the school years (six to eleven) ; early adolescence (eleven to fifteen) and adolescence (fifteen to eighteen). At each stage the child develops according to the dialectic-materialistic patterns of development. For example, during infancy, the child develops sensual perceptions and speech formation. During the pre-school age (early childhood), the child learns to discriminate between certain subjects and acquires his first abstract concepts.

According to the theory as upheld by the communists child development rests upon a behaviouristic interpretation of individual's mental and physical capabilities. The theory also asserts that all children are able to accomplish certain desired ends once they are given a proper environment. Of course, child development and its various stages cannot be considered only from an environmental point of view (although this is very important), but must also be viewed from a biological point of view. In addition to this the psychological development of a child through all stages must be considered from the point of view of natural surroundings and the innate needs of a child. Thus,

when an adolescent changes his attitudes, it is not because certain facilities of his soul command him to behave differently, but because he has been exposed to many scientific subjects—chemistry, physics, geometry, etc., which determine his outlook.

In short it is worth mentioning that unlike the western psychologists educational psychologists in the communist countries are limited in their endeavours by the party's demands on the nature of psychology in general and the nature of educational psychology in particular.

RECENT EXPERIMENTS IN LEARNING

According to the views of the Marxists learning activities depend largely upon various conditions of the nervous system. The theories of learning must be studied from the point of view of four dimensions : (1) the whole vs. parts, (2) the assimilation of many activities into a single one, (3) the organism itself vs. incoming stimuli ; (4) the organism (and with it learning) vs. actual conditions of life.

The many components of learning—memory, retention, perception, interest, attitude, emotional stability, etc.,—must be seen from the Pavlovian viewpoint or from the outlook of approved communist scholars in the area of behaviouristic psychology.

In recent years many psychological experiments have been conducted in the Soviet land and many of these are concerned with the study of languages and the study of mathematics.

The study of languages is a very important field in the communist system of education. Various experiments designed to improve habits of learning are conducted. For example, there is much research in autogenic methods and muscular relaxation. It is believed that by this method learning situations can be improved without causing any adverse effect on the neuro-psychological condition of the individual.

Educationists and Educational Psychologists in the communist world apply the method of muscular relaxation vs. autogenic training repeatedly on the group. Unlike the experiments in which the method was used on many groups, one experiment is replicated many times on the same group, which assumes the reliability of this method under different conditions. They are trying to prove that by applying some mechanical means together with a purely psychological aid one can improve learning and problem solving (Levitov 1959).

In improving the study of modern languages, as well as the natural sciences, a combination of theoretical and experimental training goes hand in hand. Many educational psychologists in the communist world believe that the student, by applying some physical activity, such as clenching one's fist, or one's teeth, is less subjected to outside interferences, therefore, can concentrate better and solve problems faster.

These experiments must be related to the age of children and the material being studied. In languages, for example, knowledge of certain basic linguistic structures or previous hearing of some words can accelerate learning and memorization of vocabulary.

Pavlov, as well as his followers, thought that one must first study the individual and different types of nervous system activity before any choice of subject-matter or the definition of a learning situation, can be intelligently stated. Since thinking and learning are to be considered as one educative process, one must choose examples which will not only enrich the child's knowledge of a certain subject (e.g., mathematics), but at the same time will increase his linguistic ability and his development of clear, fluid linguistic patterns.

POWER OF ASSOCIATION

According to the communist's view-point the relationship between understanding and recall is proportional to the power of association.

An association is related to the individual's experiences. The more an individual is exposed to new experiences the better are his chances for connecting the new experiences with the old ones. Of course, there are cases, when there is not always a correct response between associations.

Various levels of understanding are related to associations. The child is not always able to associate correctly previous ideas and experiences with new questions. For example, when a child is asked to define a noun, he may answer in many ways: The noun is home work; the noun is a section of the book; or finally, the noun is "the house, the birds, the book." The logic of the question-answer dialogue is that if the child is not exposed to enough experiences, he can not form the proper associations. (Kovalev, 1965).

PERSONALITY AND SOCIETY

Educational psychology in the communist countries puts stress on the relationships to society that is built up through emergence of personality. It signifies that the individual is only important as long as he contributes to the society in which he lives.

Historical materialism studies the individual as a component of a mass (society), and educational psychology processes this very component in such a way that the society can best be benefited. The particular individual traits of a personality in the communist world are determined by an individual's contribution to society. However, the individual is a conscious being, so he can choose a profession or a path of life which suits his taste—his taste must be the taste of society. Here educational psychology plays an important role by bringing about a symphony between individual taste and taste of the society. Individual personality is looked upon from that point of view.

The communists theorize about the all-round development of personality. They conceive of a "new man" who will perform a variety of tasks properly and correctly, and who will integrate his spiritual wealth with his overt behaviour. This necessitates the development of proper individual traits.

From the communist point of view it is important for a person to develop an optimistic attitude towards life. A person must believe in his capabilities. He must believe that he can do something for the society, and that he can do it better than others. All this is on the basis of his labour and not merely theory. Furthermore, the communists do not recognise any aptitude tests in determining personality traits. Testing is capitalistic, discriminatory and in the socialist society everyone is just as able as his neighbour or friend.

METHODS OF CHARACTER EDUCATION

Most of the methods concerning the development of certain personality traits as well as character education can be found in the works of Makarenko. He elaborated the foundations of educational philosophy, as practised in the communist countries, along party lines. The most important point of character education depends on the fact that not the family but the state is the model of moral values. Makarenko stated that he admired lads who disobeyed their mothers and fathers because they had much faith in the communist state. (Bronfenbrenner, 1962).

The most peculiar feature of character training in the socialist countries is the socialisation in the school collective. Contrary to American ideas where the individual is all that matters, the communists tend to educate men who will forget about themselves and dedicate themselves to the collective.

Social competition in schools, so common and so natural to the communists, is based on competition not between individuals but between groups. A teacher commonly remarks, "let's see which row can finish this

assignment faster, or what row can sit the straightest," etc. Thus the competition between rows in a school situation is a foretaste of future competitions between nations, between social classes and between races.

There are special manuals designed for character education that each teacher must know. There are no school psychologists but huge charts are kept in each grade and each row in school and results are posted on the walls of the school. Each student can see the progress of his groups. (Soviet Education, 1961). Those who happen to be in the top performing group receive a reward—not money but the group's picture might be placed in the school newsletter, or the winning group would be visited by other groups in order to learn from them how to achieve such excellence.

A teacher does not correct a child's behaviour by himself. He merely mediates between the offending student and the group. For example, when a student is tardy, the teacher would ask the group, "is it helpful to us that this student is late?" The answer from the groups would be, of course, no. To remedy the situation the teacher would assign a punctual student to the one who is constantly late and ask them both to help each other. If it happens that the next day not only the previously tardy student is late but the punctual one also, the whole group receive a warning.

The teacher may test the students in other ways. He, for instance, come late to school just for the purpose of checking on the whole group, or to check the monitors who supervise the class during the teacher's tardiness.

Another method used in schools in the communist countries to develop proper personality traits is to have parent's report to teachers about their children. Thus, the child is not supposed to behave as he pleases even at home, because if his mother is a sincere citizen, she will report all his misdeeds to the teacher. The teacher in turn has a good picture of the child in relation to his school work. Sometimes a representative of the school will come to the worker's home and observe the children.

An individual's grade to some extent depends on the performance of his group. Therefore, it is imperative that children help each other in school assignments, so that the standing of the group can be improved.

In the communist countries a set of rules is distributed to each school, especially to the boarding schools where the teacher watches the children all day. The instructions emphasise that the poor collective surpasses the family; that the behaviour of an individual should be judged from his contribution to the collective; that the rewards and punishments must be meted out to groups rather than to individuals that the distribution of punishment must

be set by the collective in the presence of a teacher ; that each member of a collective is to be encouraged to observe and report the deviant behaviour of his playmates ; that group criticism should be applied because it develops the idea of self-criticism. These rules must be put into practice and results must be reported to the administrative authorities.

All these practices and methods led to one goal—the formation and education of members of the communist society. The steps may be complicated, but all these complications depend on those requirements which the communist party sets forth for the personality of the socialist man.

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CAUSES OF SCHOLASTIC DISHONESTY AMONG THE EXAMINEES

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ABSTRACT

The present study was an attempt to study the causes of scholastic dishonesty among the examinees. Random sampling procedure was used to select 100 teachers and 300 students of graduate class. A self-constructed checklist was administered to collect the data. Simple percentage and ranks were calculated. The obtained results indicate that teachers and students differ with regard to the causes of scholastic dishonesty among the examinees.

INTRODUCTION

Our examination system is in shambles and almost at every level has reached its nadir. In fact, there has been virtual collapse of this system. Due to its cumulative defects, it is rightly regarded as a bundle of evils and its fall out encompasses the entire fabric of our educational system. It is due to the pernicious effects of the examination that the whole fabric of education is crumbling fast. In this context, some one has rightly said that the system of examination was originated by chinese who are said to have invented gunpowder and in our country, it is the examinations that have played more havoc than gunpowder.

Today leakage of question papers, mass copying and approaching the examiners for extorting high marks have become the norm. A visit to various examination centres presents a horrifying sight. The examinees are not only armed with slips of papers with answers scribbled on them but they are also helped by scores of friends lurking in the vicinity of centres. These helpers hurl papers missiles with answers scribbled on them through the windows of the examination room. It is also heard that answersheets of some influential candidates are smuggled out of the hall and are written in the hosted room by their friends who have text-books and guides handy. Any attempt by the invigilators to check these "going ons" are met with violence. In a nutshell, scholastic dishonesty reigns supreme in the conduct of examinations right from the elementary level to the University level.

Many studies (Lalithamma, 1975, Mathew, 1976, Prakash Chandra, 1976 and Sharma 1978) have been conducted with regard to correlates of achievement. A few studies have been undertaken by researchers to investigate the causes of Scholastic dishonesty which the students generally resort to for fetching high scores. Meagre (1965) and Sharma (1965) conducted their studies to this effect but in the present atmosphere when this epidemic is spreading at a sputnik speed and thereby vitiating the atmosphere of education, there is a crying need to diagnose and identify its causes. To fulfil its purpose, the present study was undertaken.

OBJECTIVES

The objectives of the present study are as follows :

1. to find out the causes of scholastic dishonesty among the students ;
2. to find out six differences, if any, concerning the causes of scholastic dishonesty ;
3. to study the views of teachers with regard to causes of scholastic dishonesty.

TERM

In the present study the term 'scholastic dishonesty' has been defined as follows :

Scholastic dishonesty includes copying, recommendations and approaching the examiners for getting better awards in the examinations.

LIMITATIONS OF THE STUDY

1. The study was conducted on three hundred graduates of Aramgarh district, Uttar Pradesh, only.
2. The teachers included in the sample were of degree stage only.
3. The size of the sample was small for broad generalization.

PROCEDURE

SAMPLE

The sample for this study consisted of three hundred graduates only of which 150 were boys and 150 were girls. Two hundred students were from urban area and the remaining were from rural area. Over and above, the views of hundred teachers working in various degree colleges of Azamgarh district, Uttar Pradesh, were also procured.

TOOL

For the collection of data, a checklist was developed by the investigator. It was constructed after following the normal procedure of checklist construction. The final form of the checklist contained ten items.

In order to avoid non-response, the tool was distributed among the respondents personally and they were asked to mark thick (✓) only one of the reasons they think to be the most important. The responses were collected on the same day.

RESULTS AND DISCUSSION

For the analysis and interpretation of data, frequency distribution, percentages and ranks were calculated.

TABLE I

Causes of scholastic dishonesty in view of the students as a whole

Causes	Frequency	Percentages	Rank
Foundation of students are poor	30	10	
Services and admission to higher			
classes are linked with degrees	73	24	I
Students do not work hard	20	7	
Students take failure as a matter			
of shame	35	12	III
Students imitate each other	50	17	II
Guardians induce their wards	12	4	
The atmosphere of our society is			
corrupt	28	9	
Moral degeneration of teachers	19	6	
Security persons like PAC and			
police are helpful	3	1	
The college is the self-centre of			
the examination	30	10	

Table 1 indicates that seventy three students (24%) are of the view that resorting to scholastic dishonesty is due to the reason that services and admission to higher classes are linked with degrees. This reason has been

accorded first rank. This is natural because in our society too much premium is placed on marks and degrees. Admission to higher classes and services are directly linked with marks and degrees obtained in various examinations. This is the reason that no hold is now barred for scoring maximum possible marks on the part of students as a whole and it has become ordeal for the examinees and examiners alike.

Fifty students (17%) think that malpractices in examination occur due to the reason that students imitate each other. This reason gets second rank. It is really true that due to malpractices prevalent in our examination, the whole atmosphere has been vitiated. Even the studious and conscientious students are tempted to take leave of their studies. They think that like their fellow students, they will come up with flying colours by resorting to dishonest means in the examination.

The third rank goes to the reason : 'Students take failure as a matter of shame.' This reason has been endorsed by thirty five (12%) students. This is inevitable for students who have been driven to the conclusion that in our society every thing is forgotten and forgiven except failure. The ordeal of examination is really trying enough. Everybody notices that as the time approaches for announcement of the results, tempers are frayed, expectations are roused and disillusionment grips many when failure stares them in the face. The announcement of the result is in the nature of curtain raiser.

TABLE 2

Comparison between responses of boys and girls

Causes	Frequency (150 boys)	%	Rank	Frequency (150 girls)	%	Rank
1	10	7		20	13	III
2	50	33	I	23	15	II
3	10	7		10	7	
4	9	6		26	17	I
5	30	20	II	20	13	
6	12	8	III	0	0	
7	8	5		20	13	
8	8	5		11	7	
9	3	2		0	0	
10	10	7		20	13	

Table 2 shows that Fifty boys (33%) view that scholastic dishonesty breeds because appointment and admission to any higher class depend upon

the marks and degrees. While this reason has been given the first rank by the boys, the girls do the same to the reason 'students take failure as a matter of shame'. Girls have opted for this reason because in this part of the country, girls study mainly not for getting service but for self-satisfaction and enhancing their marriage prospects..

Twenty percent of the boys think that there is a tendency among the students to follow and imitate each other.

While the boys consider the reason "students imitate each other" in the second place and "guardians induce their wards" in the third place, the girls give second place to the reason "services and admission to the higher classes are linked with degrees". The girls accord the third rank to the three reasons standing at serial Nos. 1, 5 and 10.

TABLE 3

Causes of scholastic dishonesty in view of teachers

Causes	Frequency	Rank
1	34	I
2	27	II
3	6	
4	6	
5	3	
6	10	III
7	1	
8	2	
9	1	
10	10	

It is clear from table 3 that the teachers (34%) consider the reason "Foundations of the students are poor" in the first place. This may be because students from the very primary stage want to pass the examination by hook or crook and preferably by crook. Consequently, they are found in general to be mediocre and they find it very difficult to adjust to the higher classes.

The reason "Employment and admission to higher classes are linked with degrees" get the second rank. This is the reason that many people feel that employment should be delinked with degrees.

The third rank goes to the reason "Guardians induce their wards" A visit to any examination centre may shock any body because outside the examination centre, many guardians go and exercise their influence upon the invigilators to do favour for their wards. Hence, the guardians cannot be exonerated from the charge that they also play dubious role in this abominable racket.

CONCLUSIONS AND RECOMMENDATIONS

Results suggest that scholastic dishonesty is a complex problem and several causes are responsible for it. The students and the teachers differ among themselves with regard to causes that give rise to the malaise. Majority of the students think that linking degrees with employment and admission to higher classes is the most potent cause for compelling the students to resort to scholastic dishonesty. Majority of the girls opine that our society has set so much store by the so called academic qualifications that failure cannot be countenanced. In our society every thing can be forgotten except failure. Teachers hold different views in this regard. Majority of them think that background of the students is very poor. As a result, the students fail to adjust to higher classes and ultimately resort to unfair means for getting success in the examination upon which hinges their future life.

Keeping these views in mind, one can safely reach the conclusion that there are multiple causes responsible for this malady. Teachers, students, guardians and administrators are collectively responsible for it. For overcoming this evil, the following suggestions may be given.

Degrees should be delinked with employment and job should be properly classified on the basis of skills needed for their competent performance.

Admission to higher classes should not be done on the basis of academic scores only.

Academic session should be maintained and the prescribed course should be completed.

Habit of hard work should be developed among the students so that they may be sincere to their studies.

Teachers should be conscientious and true to their profession so that they may not become a party to this evil.

Strong public opinion should be built against this evil.

Parents should discourage and desist their wards from adopting underhand means in the examination.

The practice of colleges being the self-centre should be abolished.

The above mentioned nostrums can go a long way to stem the rot. If this problem goes unheeded and unsolved, the country will be plunged into chaos by millions of half-baked unemployable young men who are being spewed out in increasing number by our degree manufacturing factories to spell ruin all round.

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PERSONALITY : Marxist Concepts And Practices

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ABSTRACT

On the basis of the revolutionary aspect of Hegelian dialectic the analysis made by Marx with respect to concepts of personality from the standpoint of dialectical materialism has been highlighted in this paper. The paper also deals with some key-points on the development of personality, functional interacting systems of the cortex, the nature of developed personality, techniques of personality assessment and Marxist's attitude towards the personality theories, especially of Kurt Lewin and Carl Rogers.

BACKGROUND INFORMATION

Hegel died in 1831. Marx entered the University of Berlin in 1836 where Hegel had taught till the time of his demise. Professor Gans, a Hegelian, was the teacher of Marx on the Philosophy of Right and it was in his classroom Marx's attention was first drawn to the revolutionary aspect of Hegelian dialectic "that no historical state of affairs can ever be considered final" (Dupre, 1966). Feuerbach introduced historical and sociological variables to Hegel's system and made it suitable to his own materialistic doctrine. He said, "the task of modern era was the realisation and humanisation of God—the transformation and dissolution of theology into anthropology" (Feuerbach, 1966). He claimed, "divine wisdom is human wisdom, the secret theology is anthropology, the consciousness of God is nothing else than the consciousness of the species concerned, and the relations of child and parent, brother, friend, in general of man to man, briefly, all the moral relations are *per se* religion" (Feuerbach, 1957). Marx took a philosophical stand which improved greatly on Feuerbach's materialism while at the same time retaining the dialectic method of Hegel. He felt that speculative philosophy was also an alienation; so he involved himself in practical investigations of how to cure the social evils of his day (Onyewuenyi, 1981). Marx, unlike Hegel, holds that man realises himself when he and nature interact upon each other as parts of the world. Man is directly a natural being with feelings like other creatures. Man is an active natural being with unique crea-

tive abilities and tendencies and for the expression of which he retains urge and requisities for hard work. Marx regards labour as an essential property of man. Marx saw in communism, "the return of man himself as a social, i.e., really human being, a complete and conscious return which assimilates all the wealth of previous development..... It is the true resolution of conflict.....between freedom and necessity, between individual and species" (Fromm, 1966). Wealth or poverty in a community must be shared by all with pride and dignity.

Marx's man is not considered in terms of what he has but in terms of what he is, his being as a concrete being of possibilities who is able to surpass, transcend, the givens of nature.

In the early 20th century, Alfred Adler by utilising Marx's human concept invited the psychologists to shift emphasis on the social nature of man, his creativity, and his ability to influence his circumstances while at the same time being influenced by them. Adler's thesis "striving to overcome felt inferiorities", Adler's conviction "of the necessity for attaining equal rights for women" are related most to Marx. Adler's ideal was "Fellowmen". After Adler, "an individual is a unified community in which all parts cooperate for a common purpose" (Adler, 1912). As the complete antithesis of Freudian views on personality and psychopathology, Adler spoke of a socially oriented teleological psychology—a revolt to any mechanistic, causalistic, and reductionistic approach.

In the third decade of current century, George H. Mead published his most influential volume *Mind, Self, and Society* (Mead, 1934) to justify his views, as interactionist, on personality from social psychology viewpoint. Mead called his social psychology "Social Behaviourism", as the antithesis of Watsonian Behaviourism. Some sociologists, including neo-Marxists, attempt to reconcile Marxism and interactionism. Because, both traditions conceive humans as active agents who shape as well as are shaped by their worlds. "Marx, the social structuralist, and Mead, the social psychologist, can indeed shake hands in sociology. Both believe in man as maker of society and history and share the conviction that free men in life-nourishing groups can build progressively more human and more just social institutions" (Ropers, 1973). According to Mayrl (1973), if Mead is found compatible with the dominant assumptions of Marxism, a further reshifting of Western sociological assumptions may be precipitated by sharpening and sophistication of the Marxist paradigm.

The trail to genuinely deep knowledge of human beings is a very long one indeed. We are only at its beginning.

Marxist Concepts and Practices

History says, M. V. Lomonosov (1711-1765) is the earliest precursor of materialist personality theory, who clearly recognised the enormous significance of speech and of verbal communication among people in the development of personality (Boryagin, 1957). Then we find Mukhin's scientific conviction *Weltanschauung* to describe the "material world as real and knowable". Later, after Mukhin, Dyad'kovski (1784-1841) formulated the concept of *neruism* to claim "central nervous system as the regulator and coordinator of all the other bodily systems". This concept later became a central theme of Pavlov's work. Subsequently, the materialist thinking in psychology became firmly established by Filomafitskii (1807-1849) by his observation on the "unbreakable connection of thought to speech". He wrote "animals cannot form words because they have nothing to say while they have necessary organs of speech." Here, it would not be irrelevant to mention the classical work of Sechenov (1863) to state the proposition that all acts of conscious and unconscious life are reflexes originated in the brain.

In the autobiography of Pavlov (1904) we may find the influences of the following authors' contributions in shaping the Marxist concept and practices to do with personality :

- (1) V. G. Belinskii's view on the special importance of social influences in the development of personality.
- (2) A. I. Herzen's view on personality basically as the resultant of physiological and historical necessity.
- (3) N. G. Chernishevskii's contention that personality develops out of a knowledge of the real material world, which has objective existence.
- (4) N. A. Dobroliubov's view that sociohistorical factors are primary in personality development. Character traits are acquired as a result of sociocultural and historical influences, rather than by genetic or biological factors.

Personality specialists of Marxist countries believe that without a scientific, materialist psychology, it is impossible to solve the problem of psychogenesis and psychotherapy. For this purpose they depend on Marx-Engels-Lenin's general theory of dialectical and historical materialism and on the teachings of I. P. Pavlov. They take as its point of departure the socio-historical and natural historical understanding of man. "Man is not only

an object, but a subject, whose consciousness reflects reality and at the same time transforms it" (Myasishchev, 1958).

The credit goes to A. S. Makarenko in venturing to apply Marxist personality theory into practice. In 1920 he took the assignment of rehabilitating young delinquents and contributed a set of theories about personality development and character building, which became keystones for Soviet personality research and educational practices. Makarenko stated the essence of his principle as follows :

"To make the greatest possible demands of each person, and to show the greatest possible respect for each person."

He enunciated his system of the upbringing of the collective and of the individual personality as the "pedagogy of parallel influence".

Vygotskii (1934) is credited with originating the sociohistorical origin theory of higher mental functions in man and being the first to demonstrate the Marxist thesis of the sociohistorical nature of human consciousness. Through the major contributions to the study of personality and to medical psychology, Myasishchev became able to establish his Leningrad School of pathogenetic psychotherapy to treat neuroses by elucidating those psychological causes of the illness of which the patient remains unaware, by restructuring the patient's personality in the course of psychotherapy (1960). In this connection the highly original work of Georgian psychologist Uznadze and his school on the *Theory of Set* (Uznadze, 1949) can be mentioned also.

Marxist concept of Psychology took a definite shape, by replacing idealist views, in 1926 following the appointment of N. N. Kornilov as the Head of the Institute of Psychology, who published a *Textbook of Psychology also from the Standpoint of Dialectical Materialism* (1926) to synthesise the then prevalent personality concepts under the frame of a Marxist materialist philosophy. In the middle 1930s, psychotechnics and pedology were severely criticised as being "pseudo-scientific and anti-Marxist", and simultaneously the Central Committee of the Party condemned the so-called Two-factor theory in describing personality as a product of heredity and environment. Instead, a Three-factor theory was enunciated to state that "personality development is determined by inheritance, environment, and socialisation—in family, in school, in community, and in the job-situation. Personality, according to this view, speaks of an autogenetic development : "a man takes part in the shaping of his own character, and he himself bears a responsibility for that character" (Rubinshtein, 1940).

Self-training comes about as the individual develops ideals and a definite image of the life-style he will adopt. The individual is taught to aid in moulding himself to a correct Marxist life-style through self-encouragement and constantly practising those traits of character he is trying to develop in himself. This speaks of the need for a Marx oriented education policy in a Marxist country. Accordingly, Bekhterev's *reflexology* lost all influence after 1927, after a decision of 2nd All-Union Conference of Marxist-Leninist Research Institutes : "reflexology bear a revisionist trend which deviated from the true Marxist-Leninist position".

Key Points in the Study of Personality

1. Matter is primary to, and exists independently of, any perceiving mind. The external material world is real and would continue to exist even if there was no mind to perceive it. Accordingly, psychic processes are a function of the brain, the highest form of organic matter.
2. From the moment of birth, the child is a social being, whose life must be flooded with new stimuli to activate the process of auto-genous movement.
3. For the development of personality the second signal system has a basic significance. Adult plays a very important role in the personality development of early childhood while association with peers becomes increasingly important in the personality development of adolescents and youths, when sexual maturity gets gradual expressions. Consciousness is formed during practical activity and revealed in the course of activity.
4. Marxist social life processing helps to inculcate typical personality traits in the adolescents, scientific and moral world views in post adolescents, and finally a socially desirable personality to keep pace with materialist philosophy of life.
5. Man represents a product of historical development. The developing man is characterised by distinct outlooks and attitudes and particular moral demands and values. The major determining condition for the maintenance of his personality is the place he occupies in the system of social relations and the activity one carries out within that system. The more a man can establish integrated relationship to reality the more he becomes motivated, the more he can distinguish between meaning (objective connections, relations) and significance (personal connections, relations).

6. Functional interacting systems of the cortex develop as a consequence of the organism's interaction with the environment. "Communist work will be voluntary, without any consideration for reward ; work as a habit for the common good, and as a conscious attitude, which recognises the necessity to work for the common good ; work as a basic need of the healthy organism" (Lenin, 1963).
7. "The mature, developed personality must possess the following qualities : (i) discipline, or the ability, consciously and responsibly, to relate to one's tasks ; (ii) collectivism, or the ability to give aid to one's comrades in the interests of achieving the goals and tasks of the collective ; and (iii) a creative attitude toward work, or not being content with what one has achieved but constantly striving to raise the productivity of labour by mastering greater skills" (Ziferstein, 1977).
8. The study of personality by tests and questionnaire seems to be unscientific. The most valid techniques of personality assessment involve the use of "natural experiment" by studying behaviour and responses in the natural setting of a community. Individual personalities are assessed in the process of experimental efforts to change personality and behaviour in a specified, desired direction, by "transforming experiment technique". Assessment for purposes of vocational guidance is best accomplished by longitudinal observation of the child, and young person in natural setting, rather than by vocational aptitude testing. There has been a renewal of interest in recent years in the use of certain tests and questionnaire like, TAT, Rorschach, and MMPI (Myasishchev, et al, 1969).
9. "The principle of treatment by the method of psychotherapy consists in the reconstruction of the personality through the process of social intercourse and working and living in common. Psychotherapy represents a border zone which combines the treatment, rehabilitation, and upbringing of man... The psychiatrist is the teacher of life to the patient" (Myasishchev, 1973).
10. Marxist personality theorists and practitioners bear a favourable attitude towards the personality theories of Kurt Lewin and Carl Rogers because they pay greater attention to the effects of the social environment on the development of personality, and they study the personality from a holistic viewpoint. But they are extremely critical of existential personality theorists.

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DISCOVER THE POWER OF PHOTOGRAPHY IN WORKING WITH HANDICAPPED CHILDREN

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ABSTRACT

This paper depicts a thematic profile on the power of photography in working with handicapped children. It attempts to give a practical guide to the child to see the truth and to study the truth. Workable feasibility of phototherapy in identifying the handicapped is also hinted through the study.

The camera is indeed an incredible object, always ready at the click of a switch to record a visual image for the photographer. The polaroid camera goes one step further. It produces the print on the spot for immediate study. What can you do with your pictures? How can you best use them? Let me introduce you and give you a practical guide to phototherapy.

Who may benefit from phototherapy?

Just about anyone, but particularly the autistic, the mentally retarded, the emotionally and socially maladjusted or simply poorly groomed children or children with messy eating habits or temper tantrums.

What do you photograph?

Basically, the behaviour you wish to eliminate, modify or change. If a child has frequent temper tantrums, snap his picture during one of those tantrums. If a child is completely unaware of his clothes and self-care, go ahead, and take several shots as he is. Then for contrast, shoot some pictures of the child at play or properly groomed. You may include activities that he likes and enjoys. Include his friends and family whenever possible.

What do you do with your prints when you get them?

Keep your talking to a minimum; study the pictures; give the child time to study, reflect and comment. A photograph allows the child to see the truth, to study the truth. Gently hint at the pictures which point to the unwanted attitudes. Exuberantly praise the pictures which may be nearer your goal. Make a chart with a few words and put it up on the wall for awhile. Later on, paste the pictures in a scrapbook. Each time the child

makes an effort to reach the goal, add a start to the corresponding photograph. As soon as you see some improvement, shoot more pictures. Raise your goals. Discard the very lowest ones. Be ruthless in recording the undesirable attitudes. No one likes to have permanent record of less than best. Even the most withdrawn child senses this and tries to correct himself.

Hints to make photography simpler and cheaper

When using an electronic flash, use cheap outdated black and white films.

High speed (ASA 400) films eliminate the need for flash.

When using Instamatic cameras, flash is a must when definite shadows are missing.

Take your exposed film to photofinishers for faster processing.

Avoid buying expensive albums. Instead, buy three ring binders and some folded plastic leaves to keep the pictures clean. These allow for rotation of pictures and stories.

Why does phototherapy work?

It works because it builds up a child's self-concept and his self-esteem. He feels loved and singled out. Through photographs he recognizes "Me" the person, his favourite subject. His innate desire to learn becomes predominant. Phototherapy helps the adult to understand the child. Photographs tell a simple story, often more truthfully than the subject ever can.

"The unexpected thing about the camera," says Denes Devenyi, "is that it makes one aware of the invisible. Photography can elucidate private realities and communicate them to others." Essentially, photographs are self explanatory and need little adult interpretation. Let the child study them, enjoy them and learn from them.

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A STUDY OF THE PERSONALITY CHARACTERISTICS OF MENTALLY RETARDED AND NORMAL CHILDREN

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ABSTRACT

The study was undertaken to observe the differences in the personality characteristics of mental retardates and normal children. Sample of 50 school going children was taken for the study with two categories—one composing of 25 educable retardates and the other of 25 normal children randomly selected. The tools used are (a) Jalota's Group test of General Mental Ability and (b) Sen's Personality Test Inventory. A small hypothesis was tested that there was no significant difference in the personality characteristics of mentally retarded and normal children. From the findings it has been observed that mental retardates have a lower level of intelligence. They are slow in development in comparison to their normal age-group peers.

INTRODUCTION

Education is closely related to human growth and development. Through nurture and education a human being can develop himself in all walks of life (e.g. social, economic, intellectual and emotional) and through such a development he can grow as a normal. But sometimes, some persons do not develop as normal beings. They become or are born as mentally retarded, as they are influenced by the family and are stunted by the social environment. They have limited capacity and are largely dependent on others. The question is, Who is mentally retarded? How a person or a child can be identified as mentally retarded. To answer these questions, observations of some specialists are given in the succeeding paras.

S. K. Misra (1982) writes that a mental retardate is "fundamentally a normal person with the exception of operation at a lower level of intelligence. The degree of self-sufficiency, from the point of view of his economic and social level, happens to be at a much lower level. He is slower in development in comparison to his normal age-group." (Sen, 1982). Educable mentally retarded child as Samuel A. Kirk (1970) writes, "is one who has potentialities for development in :

- (a) Minimum educability in academic subjects of the school ;

- (b) Social adjustment to such a point that he can get along independently in the community; and
- (c) Minimum occupational adequacy to such a degree that he can later support himself partially or totally at the adult level."

"Mental retardation, according to the American Association on Mental Deficiency, is significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behaviour and manifested during the development period." (Sen, 1982). Herber (1961) has identified and discussed three conditions that label a person as mentally retarded :

- (a) Sub-average general intellectual functioning;
- (b) which originates during the development period; and
- (c) is associated with impairments in adaptive behaviour.

Kirk (1958); Gunzburg (1960); Jordon (1960); Meycrowitz (1962); Kern (1962) and Hermelin (1963); Stevens and Hever (1961); Clarke and Clarke (1976); Blake (1976) have done useful work in the areas of education, training and management of mental retardates.

The aim of this paper is to study the personality characteristics of some mentally retarded and normal children. In this study, it is tried to investigate the personality traits of mental retardates and normal children. Only eight personality characteristics e.g. Activity, Hypomaniac temperament, Attitude to moral values, Dominance, Paranoid Tendency, Depressive Tendency, Emotional Unstability and Introversion have been selected for the study.

HYPOTHESIS

The study is made with an intention to identify the personality characteristics of mental retardates and normal children and to find out whether these exist some differences or not.

The null hypothesis proposed for testing and verification is : There is no difference in the personality characteristics of mentally retarded and normal children.

SAMPLE

A sample of 50 School going children has been taken for study. Out of these 50 students, 25 are taken from educable mental retardate children enrolled in the school for the mentally retarded, an institution run by School of Social Work, Kashi Vidyapith, Varanasi and the other 25 have been

randomly selected from normal children of standard IV and V of three schools of Varanasi town. Only those educable mentally retarded children have been selected for study who have an I.Q. of 50 or above but below 70 and can be educated. These 25 mental retardates are in the age-range from 9 to 12 years and their I.Qs are between 55 and 67.

PLAN AND PROCEDURE

It was tried out that the selected 25 educable mental retardates were competent to understand the statements of the personality trait inventory (PTI) and respond to it when the items were presented before them in simple language. The I.Qs of this population were found out by the psychologist of the institution who had used Wechsler-Bellevue Intelligence Scale. The other particulars about the subjects were taken from their admission forms filled in by their parents.

Subjects of Study

For comparison of personality characteristics of mentally retarded and normal children, 25 normal children from the same age-group were also selected. These children were in standard IV and V and belonged to the same age-group. To test their intelligence, Jalota's Group Test of General Mental Ability (Hindi version) known as "Samoohek Mansik Yogita Pareeksha" was administered. From the selected three schools of Varanasi city i.e. Ganesh Shishu Sadan, Bhartiya Shishu Mandir and Beasant Theosophical School, 45 students were contacted and administered the intelligence test. Out of these only 25 children having an I.Q. above 70 i.e. between 90 to 110 were selected.

TOOLS USED

(a) *Jalota's Group Test of General Mental Ability*

For measuring intelligence Jalota's Group Test of General Mental ability was used. This test has 100 items which make it easy to administer in one session of the usual class period. The time specified for administering the test is 20 minutes. This test is available in Hindi and is popular in the Hindi speaking areas of India. This test has been standardized on the Indian population. The high reliability 0.967 and validity of the test ensure its wide and popular use.

The validity of the test ranges from 0.50 to 0.78.

(b) *Sen's Personality Test Inventory*

This test was used for identifying personality characteristics of the two groups. It was considered useful as it met most of the requirements of the present investigation. It is available in Hindi. This inventory has 120 questions, which can be administered easily in one session of the usual class period. This inventory has also been standardized on Indian population.

This inventory is a multi-dimensional scale carrying items on eight personality areas, viz. Activity, Hypomanic Temperament, Attitude to Moral Values, Dominance, Paranoid Tendency, Depressive tendency, Emotional Unstability and introversion. These traits are comprehensive enough to cover all the significant areas of personality.

For the administration of the PTI, first of all educable mentally retarded children were contacted. In test administration the help of the teachers and social workers, who were in their regular contacts, was taken and the names of such children were noted. Then one by one, each student was called and was asked to sit on the chair comfortably. The booklet of "Vyaktitva Lakshan Prashnawali and its answer sheet were placed on the table. For creating rapport with them, each subject was motivated and enquiries about his name, age, class and the like were made. Some necessary instructions regarding the test were then given.

After this, the statements of the PTI were read out one by one before the subject and his answers were marked on the answersheet. The particular behaviour or any talk made by the subject during the test was also noted. When the subject had responded to all the statements, the next subject was called and tested in the same manner.

For collecting data from normal children the tests were administered in group situations. For this Personality Trait Inventory alongwith Jalota's Samoohik Mansik Yogyata Pareeksha was administered to the selected children. All the necessary instructions were given to the subjects before starting the test.

The subjects were asked to write their name, age, class and date on the answer sheets. Then the test booklets of Intelligence test were distributed among them, but they were restrained to open them. Again instructions were read loudly before the subjects, while they were asked to read the same silently. Then, they were asked to solve practice exercise to make them aware of the method of answering the questions of the tests. After being sure that the subjects had understood the mode of answering the question, the "ready signal" was given to the subjects. After the test, the booklets and answersheets were collected back from them.

After a pause of five minutes, the personality test was administered. For this test, the necessary instructions regarding the test were given to the subjects. They were asked to fill in the identifying information on the answersheet of the PTI. Then they were provided the test booklets—"Vyaktitva Lakshan Prashnawali." As the questions of the test were difficult for standard IV and V students, they were asked to read instructions silently while the investigator read instructions loudly.

Later on they were asked to respond to the questions one by one by putting tick (✓) marks on the answersheet(s). On completion of the test, the answersheets and booklets were collected from the subjects.

ANALYSIS AND INTERPRETATION

The gathered data were analyzed on intelligence test firstly and the correct answers of answer-sheets were checked with the help of the scoring key. Then the total correct answers were noted down. With the help of norms of the manual, the raw scores were converted into Mental Age of each child. Then mental age was divided by chronological age and multiplied by 100, and in this way I.Q. of every child was obtained. The children having I.Q. between 90 to 110 were selected as normal children.

The PTI trait scores of the two groups, viz. the mentally retarded and normal children were tabulated, their means and standard deviations were calculated. These are shown in Table 1.

Moreover, the statistical significance of mean differences of the two groups i.e. mentally retarded and the normal children on the personality trait scores in eight areas was tested.

In order to study the differences in the means of different variables of two groups, significance of Mean difference was studied with the application of 't' test. The mean differences of mentally retarded and normal children were carefully analyzed and compared.

The analysis of the data and its interpretation has been described in the succeeding paras :

Table 1.1 presents the Mean Scores and Standard Deviation on the various traits of the mentally retarded children and normal children.

TABLE I

Statistical Measures of Trait Scores of Mentally Retardated Normal Children

S. N. Variables	Mentally Retardates				Normal			
	Mean	Mdn	S.D.	Q	Mean	Mdn	S.D.	Q
1. Activity	23.44	23.29	6.24	1.98	28.24	24.99	6.00	2.03
2. Hypomonic Temperament	21.70	21.30	4.84	2.25	17.84	19.25	6.09	2.00
3. Attitude to Moral values	24.40	24.75	6.72	3.16	23.80	23.4	7.50	2.51
4. Dominance	17.64	18.00	6.36	2.12	17.64	18.75	5.19	3.77
5. Paranord Tendency	16.72	16.42	7.56	2.94	16.94	18.01	9.04	3.61
6. Depressive Tendency	16.80	16.40	3.52	7.62	17.03	17.01	6.48	6.87
7. Emotional Unstability	16.34	15.70	8.52	4.58	14.60	14.42	5.43	2.24
8. Introversion	17.26	15.98	9.76	6.25	11.36	12.00	8.19	4.97

TABLE I.1

Means and Standard Deviations of Normal and Mentally Retarded Children on Eight Components of Personality.

Trait on P.T.I.	MEAN		S.D.	
	N	MR	N	MR
Activity	23.24	23.44	6.00	6.24
Hypomonic Temperament	17.84	21.70	4.84	6.09
Attitude to Moral Value	23.80	24.40	6.72	7.50
Dominance	17.64	17.64	6.36	5.19
Paranoid Tendency	16.72	16.94	7.56	9.04
Depressive Tendency	16.80	17.08	3.52	6.48
Emotional Unstability	14.60	16.34	5.43	8.52
Introversion	11.36	17.26	8.19	9.76

N = Normal

MR = Mentally Retarded.

Table 1.1 shows that there are differences in the means of scores on different traits. Almost all the statistical measures vary, though variations in standard deviations appear to be more pronounced.

Here, it seems important to study how far the variations in the means of the scores on different traits of the personality trait inventory showed real differences in the personality structures of the two groups, e.g. mentally retarded and normal children. Tables 1.2 (a) and (b) present a summary of the analyzed data from the PTI and its interpretation.

TABLE 1.2 (a)
Statistical Measures of Personality Trait Scores of
Mentally Retarded and Normal Children

Variables	A	HT	AMV	D	PT	DT	EU	I	Total
Mean	MR ch 23.44 N ch 23.24	21.70 17.84	24.40 23.80	17.64 17.64	16.72 16.94	16.80 17.08	16.34 14.60	17.26 11.36	154.30 142.50
S.D.	MR ch 6.24 N ch 6.00	4.84 6.09	6.72 7.50	6.36 5.19	7.56 9.04	3.52 6.48	8.52 5.43	9.76 8.19	53.52 53.92
N	MR ch 25 N ch 25	25 25	25 25	25 25	25 25	25 25	25 25	25 25	25 25
SE _M	MR ch 1.5 N ch 1.2	.97 1.22	1.32 1.5	.67 1.38	1.51 1.81	.70 1.30	1.30 1.09	1.95 1.64	10.70 10.74

TABLE 1.2 (b)
Significance of Difference in Means of Personality Trait Scores of
Mentally Retarded and Normal Children

Personality Traits	D _M	SE _M	t	Interpretation
Activity	.20	1.73	.12	Not significant
H. Temperament	3.86	1.54	2.51	Significant at .05 level
Attitude to Normal Values	.48	1.62	.29	Not significant
Paranoid Tendency	.36	1.64	0	Not difference
Depressive Tendency	.41	1.98	.19	Not significant
Emotional Unstability	.41	1.00	.20	Not significant
Emotional Unstability	1.74	2.00	.87	Not significant
Introversion	5.90	2.21	2.23	Significant at .05 level
Total	11.95	14.72	.81	Not significant

A close, careful and cautious inspection of Table 1.2 (a) shows that the mean of Personality Trait Scores of mentally retarded is highest on A M V (Attitude to Moral Values) and lowest on E.U. (Emotional Unstability). The mean of Scores among normal children is also highest on AMV but lowest on Introversion. On the whole, it is seen that there is not much differences between S.D. of the scores of mentally retarded and normal children. S.D. scores of both groups are highest on introversion. In Depressive tendency, the least variation in the scores of mentally retarded is observed, while in the scores of normal children, it is the least on Dominance.

The significance of mean differences between the scores of mentally retarded and normal children was tested and Table 1.2(b) shows that in case of Hypomanic Temperament and Introversion at .05 level, the mean difference is significant. On other traits, e.g. activity, attitude to moral values, dominance, paranoid tendency, depressive tendency, emotional unstability and also on the total score, the mean differences are not significant. Hence, it can be surmised that except on the traits of Hypomanic Temperament and Introversion on no other traits, the two groups can be differentiated.

FINDINGS AND SUGGESTIONS

Some interesting findings of this study are :

On seven personality traits the two groups viz. the mental retardates and the normal children differ from each other in terms of Means and Standard deviations of these scores. Only on one trait that is Dominance, the means for both the groups are the same, while the standard deviations are different.

In respect of traits like Attitude to moral values, Paranoid tendency, Depressive tendency, the normal children scored higher than the mental retardates, while on Activity, Hypomanic Temperament, Emotional unstability and Introversion, the mental retardates have scored higher than the normal children.

Both the normal children as well as mental retardates have scored highest on Attitude to moral values.

At .05 level on Hypomanic Temperament and Introversion, the mean differences of the scores of the mentally retarded and the normal children are found to be statistically significant.

On the basis of findings, some suggestions can be enumerated :

As it has been observed that mentally retarded and normal children were not found to be differentiated on the trait of activity, the teacher and parents

must keep in their mind that the mental retardates are not less active than normal children. Although they cannot do complex mental activity and cannot achieve success in them, but they can perform other tricks which suit their mental capacity.

Educable mental retardates can differentiate between moral and immoral and in this respect they are found equal to normal children, so teachers and parents should try to make these mentally retarded children good social beings i.e. citizens with high moral values.

Educable mental retarded children cannot be recognised at pre-school level, until they enter school at primary level and begin to fail in learning the required subject contents. Teachers at primary level should acquaint themselves with such mental retardates and should try to determine the tasks and objectives for them. They should not expect from them any kind of work beyond their capacity and in this way they should prepare them for future life.

Teachers can save their students from many frustrations, conflicts and disappointments. They can help children in leading healthy social life. Kirk and Johnson (1970) have suggested some programmes for educable mentally retarded. These programmes include the development of (a) Social competence ; (b) Personal adequacy ; and (c) Occupational competence

Institutions should consider educable mental retardates as living beings and socially useful for the society. They should be helped and facilitated according to their needs, capacity and ability.

Schools, should make efforts to identify educable mental retardates in every class in the beginning of the session and should try to provide them opportunities of bridging the performance-deficits through school programmes e.g. by arranging special classes/sections, co-curricular activities and interest-based teaching.

Crow and Crow (1954) have suggested a plan of action for mental retardates :

- (a) These children should be afforded the opportunity to achieve success within the limits of their potentialities.
- (b) It should be seen that the factors of the physical and social environment of each child are favourable to the development of success stimulating native potentialities.

- (c) The schools for the mentally retarded are adequately provided with :
- (i) sufficient and well trained teaching personnel so that each learner can be known by the teacher as an individual and the taught as such ;
 - (ii) a flexible curriculum that is adjusted to the needs and interests of the learner ;
 - (iii) adequate teaching and learning materials and learning aids for the stimulation of learning ; and
 - (iv) all the agencies of education formal and informal ; schools and the community should cooperate in the individualization of instruction, as this is desirable for the individual learner and society.

Suggestions for further Research

A similar study can be done on more advanced age of both the sexes of different socio-economic status groups.

A comparative study of the personality characteristics of institutional and non-institutional mentally retardates can be undertaken.

A study of personality characteristics of the mentally retarded and the gifted children may be conducted.

A comparative study of the personality characteristics of educable mental retardates and trainable mental retardates can be tried.

A study of the personality characteristics of the mental retardates of urban and rural areas can be made.

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TEACHERS' ROLE AS A MENDER OF CLASSROOM STRUCTURE

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ABSTRACT

A Classroom Structure is formed through interaction between the teacher and the pupils. The teacher, as the Chief manipulator of the Classroom structure, has to perform certain roles as a leader, as a communicator and as a motivator. The article gives an account of these roles that are necessary for effective and desirable educational outcomes.

INTRODUCTION

"The destiny of India is now being shaped in her classrooms" (Report of the Education Commission, 1964-66). But very little effort has been made to interpret and understand what has been going on in the classrooms of our country (Mitra, 1972). According to Buch (1974), research on teaching has, for a long time, been conducted by standing outside the classroom, and therefore, actual classroom behaviour of teachers has been sidetracked. As a result, the achievements in respect of training up the teachers, having a better teacher-pupil relationship, getting an improved teaching and better attainment in knowledge pursuits, are roaming in the blind alley for a long time. Perhaps, so long the classroom and what goes on in the classroom are not taken as our first concern ; as such we cannot improve the classroom interaction between the teachers and the students. In order to achieve an improved state of affairs in our classroom-centred educational environment, study of teachers' role as a mender of classroom structure, must have to gain our focal attention.

CLASSROOM STRUCTURE

School education is essentially a psycho-social process and the effectiveness of educational programmes in Schools would depend on a number of things—functioning of classroom as a good learning group, teachers' success in arousing and sustaining pupils' interest in setting goals for themselves and achieving them, developing initiative and sense of responsibility in the pupils, better and more effective understanding between the teacher and the

pupils, and so on. The classroom has a special place of importance because the success of instruction in the classroom is strongly influenced by the way it functions as a group. Classroom as an instructional group operates and helps its members to satisfy their needs and achieve their goals and in due course acquires a structure through interaction. Thus the structure of a classroom group is the pattern of relationships among the members (teacher and pupils) that comes to stay in the classroom.

TEACHERS' ROLE

As a manipulator of the classroom structure, a teacher plays a number of roles, some of which are discussed below :

Teacher as a Leader : Taking the other conditions as constant in a classroom situation, the teacher appears to be the chief manipulator of the classroom structure as well as the emerging interactional pattern at a given moment. In other words, the teacher assumes the role of a leader within the classroom group, whether as an authoritarian leader or as a democratic leader. However, since the teacher has to function as a leader of the classroom group most of the time, because it is his primary duty to move the group in the direction of goal, he has to analyse his own leadership behaviour and strive to make this behaviour as effective as possible. That is to say, he should decide how to function as a leader.

The teacher as a leader has to see that proper goals are set for the group and that the entire group moves towards these goals. This he can best ensure by assessing the needs of the group and by creating conditions that promote this movement. The teacher in his leadership role keeps as the main objective not only the achievement of the goal, but also the maintenance of morale and the promotion of individual involvement and participation. This helps in ultimate effective achievement of the task-goals.

According to Pareek (1974) the teacher as a leader, helps in building motivation in pupils, creates permissive climate, supports the sense of belongingness and achievement in pupils, promotes their widespread participation and introduces a spirit of challenge for the pupils to strive to their best.

Teacher as a Communicator : A teacher functions as a communicator. Most of the functions associated with teaching are implemented by verbal communication. Therefore, Flanders (1965) defined teacher behaviour as an aggregate of verbal communicative behaviours that a teacher exhibits when interacting with students.

The basic need in an instructional situation or classroom is to ensure that what is being taught reaches the pupils in an effective way. In other words, the teacher has to ensure that what is intended to be communicated is effectively done.

Communication, thus, becomes the focal and the central problem in a classroom. According to Pareek (1974), a teacher provides information to the pupils, helps to develop in the knowledge, skills, attitudes and values. All these are to be properly conveyed by the teacher and properly received by the pupils.

Communication in a classroom can take place in two ways. In the one-way model of communication the teacher communicates something and the pupils can ask questions only when the teacher permits them. In this model the teacher does not know how the message is being received; pupils also do not get the opportunity to clarify doubts and they are simply to digest the information being received by them.

In another model the teacher addresses the pupils inside the classroom who feel free to ask the teacher questions at any time they like. The teacher receives the questions and answers them. This is a two-way model. The message is sent from the teacher to the group who sends back its reactions. In this way the teacher and the group interact.

An act of communication in a classroom thus involves the teacher who says something on the one hand, and the pupils on the other, receive it and sometimes react to it.

Teacher as a Motivator : The teacher helps the pupils in their learning. As a first step he has to see whether the pupils are prepared to learn. In other words, he has to motivate them. As a motivator the teacher promotes psychological readiness for learning. For motivating the pupils he has to pay attention to the four main ways of the learning process. The teacher *tells*, i.e. Speaks to the pupils, he allows questions and *explains*; he *demonstrates* before the pupils what he has been explaining; and he *provides practice* possibilities for the pupils in that task. The main ways of learning—listening, asking, seeing and doing—may thus be adequately employed in the motivational function.

CONCLUDING REMARKS :

The role of a teacher in a classroom is thus manifold as Flanders (1976) asserts that teaching behaviour is the most potent, single, controllable factor

that can after learning opportunities in the classroom. The classroom as a group makes progress towards its goal through creating suitable environment for effective communication. It depends, to a very great extent, on the proper role played by the teachers. One of the main objectives of any Teacher Education Programme is to influence and improve the classroom instructional process. Unless proper and effective role is played by the teachers, the benefits of new curricula, new textbooks and other teaching aids will not bear fruits.

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C O N T E N T S

	Page
An evaluative study of ETV programme under INSAT — Jagannath Mohanty & Prafulla Kumar Naik	1
Mother's attitude towards acquiring need achievement in children — Narayan Deb Bhattacharjee and Manjaree Sengupta . .	13
Alienation in the school system : A factor analytic model for empirical study — Siba P. Bhattacharya	21
The use of still photography as learning assistance for the language handicapped in the classroom — Jyan Nath	27
Recent trends of teacher education for Secondary schools in the U.K. and India — A. K. Chatterjee	31
Intelligence and Socio Economic factors Predictors of Academic Achievement — Agamoni Lahiri	43
Paradoxical Experiments and our Present-day Education — Amiya Kumar Basu	49

AN EVALUATIVE STUDY OF ETV PROGRAMMES UNDER INSAT

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AND

PRAFULLA KUMAR NAIK

State Council of Educational Research and Training, Orissa

The paper studied the ETV programmes of INSAT Project covering a district in Orissa for a month in 1983. The theme, visuals, methodology and synchronization aspects were looked in depth. Defects and deficiencies were pointed out and some relevant suggestions were made on the basis of empirical findings.

After the success of SITE in 1975-76, India decided to have a multipurpose satellite of her own. The Indian National Satellite (INSAT-1) system represents India's first step towards this direction. Finally INSAT-1A was launched in April, 10, 1982. But it failed after it worked for a short while in September, 1982 due to certain technical snags that developed in it. The second one INSAT-1B was successfully launched on August 30, 1983. The INSAT Project is mainly intended for rural audience in order to speed up the national development through television programmes. The educational television programmes constitute an important component of the whole system.

Sambalpur was one of the districts covered under SITE during 1975-76 and after a break of about 2 years the TV facility was made available under Terrestrial Transmission in 1978. This district is comparatively backward and it is expected that there will be improvement of education in this district with the help of ETV programmes, which are telecast from 10.30 a.m. to 11.15 a.m. Now, there are 237 TV sets working in various schools of the district and are being operated by the custodians being appointed from among the primary school teachers.

NEED OF THE STUDY

Since priority is being accorded to the INSAT Project, the production and utilisation of ETV suitable for the students is given due importance. With a view to creating interest among the students as well as teachers, it is imperative to produce quality programmes and for this, qualitative assessment of ETV programmes being telecast is felt essential. This study was conducted for appraising the quality of the ETV programmes being telecast in the Samabalpur district.

OBJECTIVES

The following objectives were kept in view for the study—

- (i) To identify the strength and weakness of the programmes.
- (ii) To know the extent of suitability of these programmes from the psychological needs and conditions of the clientele.
- (iii) To consider the adequacy of the programmes from methodological point of view.
- (iv) To see how far the programmes are suitable for the children from their language and cultural background.
- (v) To suggest steps for improving the programmes.

SCOPE

The ETV programmes numbering 29 telecast during the month of September 1983 were studied. Out of these programmes, 14 were produced by Central Institute of Educational Technology, NCERT, New Delhi, and the remaining 15 by Doordarsan Kendra, Cuttack. Every working day ETV programmes were telecast for two age-groups i.e. 5-8 and 9-12. Out of the programmes under review 15 were meant for the 5-8 age-group and the rest 14 for the 9-12 age-group.

LIMITATIONS

Although the investigators were interested to view the programmes in school situations and tried their best to do the same, they had bitter experiences of not being able to view the programmes due to non-operation of the TV sets. Therefore, in order to avoid such disappointment, the programmes were viewed in a home situation without any external interruption and intervention. However, in this method of observation, there was lack of immediate feed-back from the students and the teachers which would have been possible in school situations. Thus the data collected through personal observation by the ETV programmes constituted the main problem of the study.

ANALYSIS AND INTERPRETATION

The date-wise as well as age-group—wise programmes viewed are stated in Table 1 alongwith the agency of their production.

Table 1
Date-wise distribution of ETV programmes during September, 1983.

Date	Title of the programmes		Agency	
	Age-group (5-8 years)	Age group (9-12 years)	DDK	CIET
1.9.83	Surya Sakal Shaktir Adhar.	Janasebaka Swasthya Paridarsak.	DDK	
2.9.83	Bal-Jagat Nehru Smarak Sangrahalaya.	Story of Man (Man learns Farming).		CIET
7.9.83	Story-I & II	Food (Balanced Diet)		CIET
9.9.83	Bal Jagat Rail Pari-bahana Sangrahalaya.	Story of Man (Indus Valley Civilisation). Part-I.		CIET
13.9.83	Graha Nakshyatra Desh.	Jana Sebak (Chikitsaka)	DDK	
16.9.83	Bal-Jagat (Baniya Mela Buli Dekhiba).	Story of Man (Indus Valley Civilisation) Part-II.		CIET
19.9.83	Mahabharata Kahani.	Bigyana Katha, Alok-III.	DDK	
20.9.83	Amasarirara Yantrapati.	Janasevak Pasu Chikitshaka.	DDK	
21.9.83	Story-I & II	Food in different Regions.		CIET
23.9.83	Bal-Jagat Palli Shobha.	Story of Man, Modern Civilisation.		CIET
26.9.83	Mahabharata Kahani.	Bigyana Katha, 1. Alok, 2. Gyana Bigyana	DDK	
27.9.83	Ama Sarirara Yantrapati.	Atri O Tapta Pani	DDK	
29.9.83	Mahabharata Kahani.	Pani (water).	DDK	
Total	15	14	15	14

It is evident from Table 1 that 15 programmes were produced by Doordarsan Kendra, Cuttack and 14 by CIET, N.C.E.R.T., New Delhi. Table 1 also reveals that out of 29 programmes 15 were meant for the age-group 5-8 years and 14 were for the age-group 9-12 years.

THEME

On theme-wise analysis it is found that there were 5 programmes in life Science, 5 in physical Science, 6 in Civics, 3 in History, 2 in Geography, 2 in Mythology, 6 in Folk Culture and 1 in life Sketch. On the whole it is evident that there are 10 programmes in Science, 10 in Social studies, 2 in Mythology and 1 in Folk Culture.

Table 2
Theme-wise distribution of ETV Programmes

Date	Science		Social Studies		Geogra- phy	Mytho- logical	Folk culture	Life sketch
	Life Science	Physical Science.	Civics	History				
1	2	3	4	5	6	7	8	9
1.9.		1	1					
2.9.				1				1
7.9.	1						2	
9.9.			1	1				
13.9.		1	1					
16.9.				1			1	
19.9.		1				1		
20.9.	1		1					
21.9.	1						2	
23.9.			1		1			
26.9.	1	1				1		
27.9.	1		1					
29.9.		1					1	
Total	5	5	6	3	1	2	6	1

It is thus found from Table 2 that more programmes have been imparted in Science and Social Studies and more or less similar in Folk Culture whereas remarkably less in Mythology and life-Sketch. It may however be pointed out that subjects like Mathematics, drawing and biography have not been given due weightage.

FORMAT

Analysis of data regarding format of presentation of ETV Programmes has revealed that mostly the programmes have been presented through features, dramatisation, talks or narration and demonstration.

Table 3
Format-wise distribution of ETV programme

Date	Dramatisation	Feature	Talk or Narration	Demonstration
1	2	3	4	5
1.9.83	1	3		
2.9.83		2		
7.9.83		3		
9.9.83		2		
13.9.83		2		
16.9.83		2		
19.9.83	1			1
20.9.83			1	1
21.9.83		3		
23.9.83		2		
26.9.83	1	1		1
27.9.83		1	1	
29.9.83	1		1	
Total	4	19	3	3

Table 4
Quantitative Analysis of Visuals used in the ETV Programmes

Date	Graphics			Model	Object	Life-shots	Pupil participation
	with animation	without animation	Outside shooting				
1	2	3	4	5	6	7	8
1.9.83			1			1	1
2.9.83		2	1				
7.9.83		2			1		1
9.9.83	1		2		1		
13.9.83			2	1		1	
16.9.83			1	1	1	1	1
19.9.83		1		1	1		1
20.9.83		1		1			
21.9.83		3	1		1	1	
23.9.83			2		1	1	1
26.9.83	1		1	1		3	2
27.9.83		1	2			1	
29.9.83			1		1	1	1
Total	2	10	14	5	7	10	8

It is evident from Tables 3 that 4 (14%) programmes have been presented through dramatisation, 19 (66.5%) through features, 3 (10.5%) through demonstration and 3 (10.5%) through simple talks or narration supported with visuals. It may be inferred that majority of the ETV programmes have been presented through features which are found to be popular.

It is evident from Table 4 that outside shooting was done in 14 programmes, graphic with animation in 2 programmes, graphic without animation in 10 programmes, real object in 7 programmes and life-shots in 10 programmes, and models in 5 programmes. However, it is interesting to note that in 14 programmes outside shooting has taken place.

VISUALS (QUALITATIVE)

The visuals may be adequate and useful, but if they are not lively and clear, they will not serve any purpose to the desirable extent. Therefore, qualitative analysis of the visuals used in ETV programmes has been made and the findings have been tabulated below.

Table 5
Qualitative Analysis of Visuals used in the ETV Programme

Date	Clear			Lively		
	Fully	Partly	Not at all	Fully	Partly	Not at all
1.9.83	12			1		1
2.9.83	1	1		2		
7.9.83	3			3		
9.9.83	2			1		
13.9.83	2			2		
16.9.83	2			2		
19.9.83	2			2		
20.9.83	2			2		
21.9.83	2	1		3		
23.9.83	1	1		1	1	
26.9.83	3			3		
27.9.83	2			2		
29.9.83	2			2		
Total	26	3		26	1	1

From the above table, it is found that in 26 (90%) programmes visuals were fully clear and in case of 3 (10%) programmes visuals were partly clear whereas visuals were fully lively in 26 (90%) programmes, partly lively in 1

(3%) programme and not at all lively in 2 (7%) cases. It is heartening to find that the highest percentage of ETV programmes were having visuals both clear as well as lively.

VOICE

It is experienced that voice of the ETV programmes was effective and interesting. Analysis of data regarding voice from the Table 6, showed that in case of 27 (93%) programmes voice was quite distinct whereas in 2 (7%) programmes, it is partly distinct. It is thus found that in majority of the programmes there was the clarity of voice. As regards speed, it is found that in case of 27 (93%) programmes speed was normal.

Table 6

Analysis of ETV programmes according to clarity and speed of voice

Date	Clarity of voice			Speed of voice		
	Distinct	Partly distinct	Indistinct	Normal	Quick	Slow
1	2	3	4	5	6	7
1.9.83	2			2		
2.9.83	2			2		
7.9.83	3			3		
9.9.83	2			1	1	
13.9.83	2			2		
16.9.83	2			2		
19.9.83	2			2		
20.9.83	2			1	1	
21.9.83	3			3		
23.9.83	2			2		
26.9.83	2	1		3		
27.9.83	2			2		
29.9.83	1	1		3		
Total	27	2	0	27	2	0

DEFECTS AND DEFICIENCIES

On the basis of the analysis of data and close observation of the ETV programmes, the following defects and deficiencies were found which need be done away with for improving the programmes. The defects and deficiencies as found in these 29 ETV programmes have been classified into five

categories : (i) Language, (ii) Theme, (iii) Visuals, (iv) Methodology, (v) Synchronisation.

LANGUAGE

Since language is the vehicle of ideas and emotions, utmost care should be taken in writing suitable scripts for the ETV programme. But such defects were found in a number of programmes. These defects are in connection with pronunciation on standard of language.

THEME

Subject-matter or content is also an important factor that contributes to the effectiveness of ETV programmes. Sometimes, the programmes are over loaded with content which is not at all desirable for the children's assimilation. Content of some programmes was either above or below the level of the age-group for whom the programme was intended. The programme *Bal Jagat* (Rail Paribahan Sangrahalaya) was loaded with so much of facts and figures that students of this age-group (5 to 8 years) would naturally lose interest and the impact would fall flat. So also, the programme, *Ama Sarirara Yantrapati*, was highly loaded for the students of this age-group.

VISUALS

Since visuals constitute an important component of the ETV Programmes, the quality of visuals greatly determines the quality of programmes. But in four programmes the visuals were found unsatisfactory. For example, in the programme "Mahabharatara Kahani" (Part VII) on 26.9.83 which was presented through Geetinatya and the visuals of Droupadi Bastraharan could have been shown to enrich the programme to a great extent, in programme "Pallishobha" on 23.9.83 visuals shown were not clear and in the programme "Manabara Kahani", *Ajira Duniya* (Part 1) on the same day the visuals of a cow moving in the city street, the farmer wearing a Dhoti and Panjabi were felt inappropriate and the visuals of *Insat-1* was not shown though referred in the programme *Bal Jagat* (Rail Paribasan Sangrahalaya) on 9.9.83 and in the programme "Graha Nakshyatrara Desh" on 13.9.83 the visuals seemed inadequate.

METHODOLOGY

The ETV programmes must be presented methodologically according to the principles of psychology as well as pedagogy in order to be effective in

communicating learning experiences to the students. But, in case of atleast 3 programmes adequate care has not been taken in this regard. For example, in the programme *Bal Jagat* (Rail Paribahan Sangrahalaya) on 9.9.83 the content was not psychological for the students of age-group, 5-8 years. It was very difficult to understand that there was no description regarding the function of different parts of the engine and seemed quite confusing. In the programme 'Ama Sarirara Yantrapati' on 20.9.83 the length of the content was heavily loaded with teaching points which seemed improper. So also, in the same programme on 27.9.83 the presentation of teaching points was not systematic, and the words, viz., "engine", acid, peritonium, chilly, etc., used by the presenter, were not in conformity with the principles of psychology, for such a programme specially designed for the students of small group.

SYNCHRONISATION

Synchronisation is a vital consideration for making the ETV Programmes interesting as well as effective. But, in case of atleast 2 programmes produced by CIET, defects in synchronisation, viz., (i) Verbal and (ii) action have been quite evident.

FINDINGS

(i) Out of the total 29 ETV programmes 14 were meant for the age-group 9-12 years and 15 for age-group 5-8 years. 15 programmes were produced by Dooradarsan, Cuttack and 14 by the CIET, NCERT, New Delhi.

(ii) Uniformity has been found to be maintained on the weightage of the programme under the heads: Science and Social studies. But adequate weightage has not been given on the subjects like Mathematics, Patriotism, Folk-culture, Mythology, Drawing and Biography.

(iii) Majority of the ETV programmes have been presented through features which are found to be quite popular.

(iv) The visual like outside shooting, graphic without animation, real subjects, graphic with animation, life-shots, models and pupils' participation have been utilised in most of the ETV programmes.

(v) In most of the ETV programmes visuals have been found to be clear and lively.

(vi) In the majority of the programmes there is clarity of voice and normalcy of speed.

(vii) In few of the ETV programmes defects have been found in pronunciation and standard of language, i.e., 'Nehru Smaraka Sangrahalaya' on 2.9.83 and 'Ama Sharirar Saniraja Yantrapati' on 27.9.83.

(viii) A few programmes were too much loaded with content or teaching points resulting in loss of interest and attention of learners, e.g., *Rail Paribahana Sangrahalaya* on 9.9.83 and *Ama Sarirara Yantrapati* on 27.9.83.

(ix) In some programmes visuals were found to be inadequate, e.g., *Rail Paribahana Sangrahalaya* and *Pallisobha*.

(x) Adequate care has not been taken in making ETV programmes as methodological as possible.

SUGGESTIONS

On the basis of the above findings, the following suggestions may be given for improving the quality of the ETV programmes.

(1) Adequate weightage should be given on the production of programmes in Mathematics, Drawing, Patriotic and Mythological subjects, Folk culture and Biography.

(2) The formats like dramatisation, features, and demonstration with real objects should be used for presentation of ETV programmes as far as possible.

(3) The visuals like graphic with animation, life-shots and outside shooting should be used as far as possible.

(4) Pupils' participation should be encouraged to the optimum extent.

(5) Clear and lively visuals should be utilised adequately through ETV programmes.

(6) There should be clarity of voice and normalcy of speed in the ETV programmes.

(7) The pronunciation and standard of language used should be made free from errors.

(8) The ETV programmes should not be overloaded with teaching points in order to make the children interesting as well as instructive.

(9) In the production of the ETV programmes, the principles of psychology and pedagogy should be followed to make the learning effective.

(10) Proper care should be taken for synchronisation both verbal as well as action in the ETV programmes.

(11) For sustaining pupils' interests different formats should be used on a particular day for presenting the programmes.

(12) Both action and music in One Act-Play and Dance-drama should be taken care of in order to make the ETV programmes more effective.

(13) To make the ETV programmes interesting and appealing the familiar topics and incident should be chosen.

(14) All care should be taken to explain different steps followed in Science experiments and practical projects in a logical sequence.

(15) Attempts should be made to dub the programmes in Oriya language from other languages taking into care the synchronisation difficulties.

MOTHERS' ATTITUDE TOWARDS ACQUIRING NEED ACHIEVEMENT IN CHILDREN

NARAYAN DEB BHATTACHARJEE

AND

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Mothers' attitude towards child-rearing, their family lives and the children's need for achievement (n Ach.) were investigated. The Parental Attitude Research Instrument (PARI) was divided into two subscales in accordance with the 'rapport' and 'tension' attitude of the mothers. The sample consisted of 245 mothers and their children. It was observed that the children of high rapport mothers manifested a significantly high need to achieve. The rapport attitude of mothers and the consequent n Ach. scores of their children yielded high significant positive relationship. No significant relationship was found between tension attitude of mothers and the children's n Ach. scores.

The decades of fifty's and sixty's have seen an enormous work on the study of task oriented behaviour and motivation in the field of psychological research. The resurgence has been spearheaded primarily by the work of McClelland and his colleagues who studied different aspects of achievement motivation. Special techniques have been devised by them for use with children—a methodological approach with need Achievement.

The psychologists agree that personality becomes seriously concerned with man's motivation to deal effectively with his environment—"effectance motivation" termed by White (1959). The development of competence as an attribute of personality can be equated with motives for achievement, and, therefore, they can be considered to be influenced by parental variables.

In investigating the achievement motivation, psychologists have delimited the criteria of achievement to the areas of cognitive attainments only particularly in the intellectual field. Some of the researches have, indeed, been conducted on physiological and physical skills, but success and achievement in the cognitive areas have emerged in great number. They have become the foci of empirical study.

The emphasis on the intellectual and academic attainment underlying need Achievement is due to the fact that need achievement is measurable objectively and that it is influenced by environmental factors.

The children's need achievement has been widely used in research work in the developmental psychology with a view to finding out its close relationship to family variables. Since achievement motivation follows a developmental pattern, it may very well be assumed to be influenced by parental

attitude and training. The achievement motivation is acquired early in life (Mussen et al. 1969). Interview with mothers of the high achieving nursery school children in one study revealed that, "from the child's infancy onward, they had rewarded and encouraged attempts on achievement and tended to ignore the child's requests for help. Moreover, the mothers who usually continuously praised and rewarded their children's achievement efforts, even when the children did not seek approval, had children who displayed especially strong and frequent achievement efforts outside the home". (Crandall, 1963).

Winterbottom (1958) contrasted the early child training procedure used by the mothers of pre-adolescent boys high in achievement motivation with those used by mothers of boys low in it. The former group of mothers expected self-reliant and independent behaviour at earlier ages and their children manifested more independent accomplishment following the reward and reinforcement provided by the mothers from an early stage of development.

The above considerations led the present investigators to hypothesise the contention that understanding mothers with favourable rapport with their children will be able to develop higher need for achievement in their children. Therefore, the present paper starts an inquiry as to the relationship between rapport versus tension attitude of the mothers and the high and low need achievement in their children.

METHOD

Sample

The sample comprised 353 students of Class X (both sexes) from eight different urban schools of 24 Parganas in West Bengal. The group TAT measure of n Ach. had been administered on the whole sample. The directions and the scoring manual, as prescribed by Atkinson and McClelland (1958), was followed during the administration of the TAT pictures in neutral condition in group test situation.

The data regarding child-rearing attitudes were obtained from the mothers of the same children, furnished by an interview schedule. Two hundred and forty-five mothers only, were available, because the rest either hesitated or were not willing to participate.

INSTRUMENT

Parental Attitude Research Instrument (PART) developed by Schaefer and Bell (1958) was translated into simple spoken Bengali and adapted to suit the conditions of the present study. During the adaptation of items care was taken that the area involved in the original items should

remain intact as far as possible. The Bengali version of PARI was sent to five different experts to judge the equivalence of the items modified. The views received, were discussed, modified and then incorporated. Thus, after a careful consideration, the items were sorted and 50 out of 115 items were selected. There are twenty-three dimensions in the original PARI. Out of them, ten dimensions were taken which were considered to be related to suit the purpose of the present study. These dimensions were then divided into two subscales in accordance with the 'rapport' and 'tension' attitude of the mother. The divisions were made on the basis of the definitions by Schaefer (1959). The dimensions, Encouraging Verbalization, Dependency, Equalitarianism, Intrusiveness, and also Comradeship and sharing were considered as Rapport attitude. For the Tension attitude of the mothers, Breaking the Will, Strictness, Irritability of the Mother, Rejection of the Home-making Role and Avoidance of communication were considered. Each subscale (Rapport or tension) was the sum of the corresponding dimensions. Now, the two subscales were given to four resource persons to judge whether the test items corresponding to the respective operations involved those operations truly. They were also requested to make this agreement on percentage basis. Agreement of 50 percent or above were taken for the final selections. The two subscales were immersed into one scale as a whole. The responses to the items were scored as 4, 3, 2 or 1 corresponding to "strongly agree", "mildly agree", "mildly disagree" or "strongly disagree".

As a pilot study, the PARI Test was then administered on thirty mothers randomly selected. The difficulties felt by them were carefully considered to modify the problems for the final test. The measure of n Ach. was derived from four TAT pictures I, 6 B.M., 7 B.M., and 8-B.M. of Murray, from the children. The results obtained was in compliance with the assumptions reasoned out at the initial stage.

The final version of mothers' attitude test (PARI) was then applied on 245 mothers and data were collected from the mothers of those children on whom n Ach. was applied.

PROCEDURE

The mothers were categorized into four groups on the basis of the scores obtained from mothers' attitude test. They were $R_H T_L$ (high in Rapport and low in Tension), $R_H T_H$ (high in Rapport and high in Tension) $R_L T_L$ (low in Rapport and low in Tension) and $R_L T_H$ (low in Rapport and high in Tension). P_{27} and P_{73} were considered to be the lowest and highest cut-

off points respectively. Thirtyone mothers were selected randomly from each group. The reason for partitioning the four groups of mothers was to maximize the group differences. The n Ach. scores of the children on selected TAT Cards were also obtained by following the scoring manual provided by McClelland et al (1958).

RESULT AND INTERPRETATION

The four groups so formed were compared by F-test to see the extent of differences among groups. From analysis of variance, the value of F was found to be highly significant at the .01 level ($F=55.92$; $df=3/120$). The group means of n Ach. scores of the children of the four groups of mothers and the tests of significance of the difference between their means are reported in Table 1 and Table 2.

Table 1

Mean Scores and Standard Deviations of the Children
of the Four Groups of Mothers in n Ach

Mothers	Mean in n Ach of the Children	SD in n Ach. of the Children
R _H T _L	12.34	3.68
R _H T _H	10.69	3.78
R _L T _H	3.89	2.46
R _L T _L	2.92	3.44
R _H	10.66	3.64
R _L	3.02	2.98
T _H	6.98	5.06
T _L	6.79	5.09

Table 1 shows that the highest mean scores of the subjects of R_H T_L and R_H T_H mothers suggested that the children of these two groups of mothers were higher in n Ach than the other two groups of children of R_L T_H and R_L T_L mothers.

Table 2
Particulars of the Measures of 't' Test

Groups of Mothers	Values of 't'	df	Levels of Significance
$R_H T_L$ and $R_L T_H$	10.69	60	.01
$R_H T_L$ and $R_L T_L$	10.47	60	.01
$R_H T_H$ and $R_L T_H$	8.39	60	.01
$R_H T_H$ and $R_L T_L$	8.44	60	.01
$R_L T_H$ and $R_L T_L$	1.28	60	—
$R_H T_L$ and $R_H T_H$	1.75	60	—
T_H and T_L	0.21	122	—
R_H and R_L	12.94	122	.01

Table 2 shows that the mean score of the children in n Ach of $R_H T_L$ mothers was significantly higher than that of the children of $R_L T_H$ mothers (Table 2). This explained the fact that when there was warm relationship between the mothers and child, the children would show higher need for achievement.

The mean n Ach. scores of the children of $R_H T_L$ mothers was significantly greater than that of the children of $R_L T_L$ mothers suggesting that children of the high rapport mothers were higher in n Ach than the children of low rapport mothers.

There was a significant difference in mean n Ach scores between the children of $R_H T_H$ and $R_L T_H$ mothers. Here also the children of R_H mothers were higher in n Ach than that of the children of R_L mothers.

The children of $R_H T_H$ mothers manifested a significantly higher need to achieve than the children of $R_L T_L$ mothers suggesting that the children of $R_H T_H$ mothers were higher in rapport with their children than the $R_L T_L$ mothers. Table 2 shows that when rapport attitude of the mothers is high and tension is higher as well, the n Ach of the children tend to be higher. This is a noticeable phenomenon. This may be due to the fact that the children of the tension-high mothers develop a good amount of anxiety. In order to avoid the loss or lack of love (which they may anticipate from their mothers in case they fail to attain the sought standard) from their mothers and to reduce their own anxiety, the children raise the n Ach level and may put more effort to achieve success, which, they think, would satisfy their tense mothers.

While the mean *n* Ach scores for the children of $R_L T_H$ mothers was found to be higher than the mean of the children of $R_L T_L$ group (Table 1), the difference was not significant (Table 2). This indicated that in case of the children of low rapport mothers, the children of high tension mothers did not differ significantly from that of the children of low tension mothers.

Again, the mean score in *n* Ach of the children of $R_H T_L$ mothers was higher than that of the children of $R_H T_H$ mothers (Table 1). This analysis also did not yield any significant variation. This indicated that in case of the children of high rapport mothers, the children of low tension mothers would not show any significant difference from that of the children of high tension mothers.

The relationship between the scores of mothers' attitude and the scores of their children in *n* Ach taking over the whole sample ($N=245$) was studied. The linearity of relationship was then tested (Guilford, 1965). The rapport attitude of mothers was found to be related curvilinearly to the *n* Ach scores of their children ($F=4.82$, $df=6/237$, $p<.01$). The value of r by the Product Moment Method was .63 (Table 3). Since the regression was significantly nonlinear, *n*-coefficient (eta coefficient) was found out. The value of *n* was found to be .68.

Table 3

Relationship Between Mothers' Attitude and Children's *n* Ach Scores

Relation Between	r	df	p	n	F	df
Rapport Attitude of Mothers and Children's <i>n</i> Ach Scores	.63	243	<.01	.68	29.15	7/237
Tension Attitude of Mothers and Children's <i>n</i> Ach Scores	.02	243	—	.18		

Significance of the *n*-coefficient was tested (Walker and Lev, 1953). The value of *F* was 29.15 which was highly significant at the .01 level.

A linear relationship was noticed between the tension attitude of the mothers and corresponding n Ach scores of their children, since the value of F ($F=.97$, $df=8/235$, $p>.05$) was not significant. The value of r (.02) was computed by the Product Moment Method and with df 243, the value of r was not found significant.

DISCUSSION

From Table 3, it is evident that there is no significant relationship between the tension attitude of mothers and their children's n Ach. scores indicating that the n Ach scores of the children is not influenced much by the tension attitude of mothers. Also from Table 2, the mean difference between the children of T_H and T_L group of mothers is not significant. Therefore, the whole group of mothers can be taken as tension-prone. From the study it is apparent that the mothers' tension does not contribute to the need for achievement in children. The relationship between rapport attitude of mothers and their children's n Ach scores is significantly and positively related (.68). The mean score of the children in n Ach of R_L mothers is significantly higher than that of the children of R_L^{EZ} mothers. When the children of R and R_H groups of mothers are compared the mean value shows (Table 1) that the children of R_H groups of mothers in four cases reveal significant higher mean than those of the children of R_L mothers.

Therefore, from the above study, it can be concluded that the mothers who employ rapport attitude in rearing their children help acquiring higher need for achievement in children. This finding gets its support from Winterbottom's study which maintains that reinforcement for early accomplishment seems to facilitate the development of a general motive for achievement and, more specifically, the desire to learn new intellectual skills and to perform well in school. (Winterbottom, 1958).

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ALIENATION IN THE SCHOOL SYSTEM :
A FACTOR ANALYTIC MODEL FOR
EMPIRICAL STUDY

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The paper describes a study which examined the suitability of the factor analytic model to build a scale of alienation in school context. A Q sort of items reflecting alienation provided a preliminary means of determining fact validity. Study 1 examined the factor structure of the items, revealing five factors, which roughly reflected Seeman's (1959) variants of the concept of alienation. Study 2 examined the relationship between the five factors of alienation with some school variables. The studies brought out a workable measuring scale of alienation and demonstrated its usability in conducting research on the contribution of the school system to the experience of alienation.

The concept of alienation has evolved from sociological theory dealing with the individual's attachment to, and feelings about his position in society. Formalized theories have been developed from the German social philosopher Hegel's (1861) notion that "socialized man" becomes detached from the world of nature, including his own nature. Marx (1874) conceived of this detachment as a condition of labour in which the worker has been rendered powerless. According to Marx (1974), "alienation appears not merely in the result but also in the process of production, within productive activity itself....."

Kohn (1956) set out to test the two related hypotheses suggested by Marx's analysis of production sources of alienation. His findings supported the double assumption inherent in Marx's analysis : both control over the product of one's labour and control over the process of one's labour are related to feelings of powerlessness, self-estrangement and normlessness.

G. Nettler (1957) first put forward Alienation as a measurable construct in a psycho-social continuum in a paradigm given below :

Social	—————→	Alienation	—————→	Anomie
condition		(Psychological state of mind)		(Social state of mind)

Seeman (1959) produced five contemporary dimensions of the concept, following the works of Nettler and Kohn. Treating alienation from the

personal standpoint of the actor, in which the concept of alienation has been used :

- a. Powerlessness, i.e., "the expectancy or probability held by the individual that his own behaviour can not determine the occurrence of the outcomes, or reinforcements, he seeks."
- b. Meaninglessness, i.e., "individual's sense of understanding the events, in which he is engaged. We may speak of high alienation, in the meaninglessness usage, when the individual is unclear as to what he ought to believe—when the individual's minimal standards for clarity in decision-making are not met."
- c. Normlessness, i.e., "one in which there is a high expectancy that socially approved behaviours are required to achieve given goals."
- d. Isolation, i.e., "The alienated in the isolation sense are those who,, assign low reward value to goals on beliefs that are typically highly valued in the given society."
- e. Self-estrangement, i.e., "the degree of dependence of the given behaviour upon anticipated future rewards."

The suggestion that the modern school system have become a "breeding ground" of alienation has been elaborated by Bronfenbrenner (1970), Friedenberg (1963), Illich (1971) and others. Illich points out emphatically that to-day's students have no opinion or active role in teaching-learning process in their own academic achievement. Neither socialization nor self-adequacy is promoted by schooling, because educators insist on packaging instruction with certification which build the image of man 'as the furnace which burns up the values produced by his tools.' These evaluations are largely reflective or introspective and casual surveys. Empirical investigations of relationships between alienation and the school experience have been limited, due to difficulties in defining the construct alienation in the "process" and "product" concepts of schoolings. The scope of the study lies to identify the process and product elements of the schooling and their incorporation into a scale of alienation.

The purposes of the studies to be reported here were :

1. To develop a measure of alienation oriented to the students' school experience ; and
2. To examine the relationships between these measures and various aspects of the school experience.

STUDY—I

Method of factor analysis offers means of operationally defining of the "meaning" of the dimensions which pinpoint the responses of individuals on

questionnaire items. A large scale investigation was undertaken using this method to derive an empirical definition of alienation as measured by the fifty items, ten for each of the variants of the concept as suggested by Seeman, (1959).

METHOD

The subjects were 200 students of higher secondary classes of three big schools in Calcutta. During an one-hour class, each student took the 50-item questionnaire in Bengali. They responded to the questions by indicating the extent to which they agree or disagree with the items on a five-point Likert type scale (1=strongly agree, 5=strongly disagree).

RESULTS

The answers on the 50 items were inter-correlated and factored by the principal components method of factor extraction. Five factors, as obtained with eigenvalues greater than 1, were rotated using Kaiser varimax rotation procedures to maintain orthogonality between the factors. 50 items on the five factors were examined from the point of view of simple structure as given by Harman (1960). Five items failed to satisfy the criterion of high loading in one and less than 0.20 loading in all others, and these were withdrawn.

Factor I, containing ten items, can be tentatively identified as a dimension of "powerlessness" as defined by Seeman and reflects the attitude that there is not much the student can do to influence the factors that control his role in the classroom, either because of the size of the class or the control of teacher in grade allocation. A typical item under this factor : If this class was smaller, learning could be better. Factor II, containing eight items, can be tentatively identified as reflecting a dimension of "meaninglessness" in life. This factor reflects the perception that others in the class are leading lonely, goalless lives as the grades given do not reflect true ability is the generalized belief. It is grades, rather than intrinsic ability, which will influence future living. An item under this factor : Many are unhappy in this class, as they do not know what waits in future. Factor III seems to reflect "normlessness" in the sense of Seeman. When taken together, the items seem to mean a general belief that individuals in the class are engaged in socially unapproved behaviours at the expense of others to achieve success as reflected in grades. A typical item : In this class where everyone is out for himself, pupils soon come to distrust each other. There were seven items under this factor. Factor IV seems to reflect a dimension of isolation. The cluster of 10 items stands for isolation via rejection. A typical item : There is no one in this class, I feel, I can really trust. The last factor, factor V, appears to be a form of "estrangement" from the class activities

as a result of a pessimistic view of peers' role in the classroom. An item out of ten in this cluster as illustration : There is little chance that students will really do something to make this class a better place of learning. Thus, the questionnaire containing finally 45 items measures five variants of alienation and the construct validity of the alienation scale is established from factor-structure.

The test/retest reliability of the factor structure was investigated in 3 streams taught at Higher Secondary level from another school of the city. Seventy-five students in all were tested and retested after one week. The factor scores were computed from the factor structure of Study 1 and were intercorrelated to determine the factor reliabilities. For each of the five factors the reliabilities were as follows :

Factor I=0.62 ; Factor II=0.80 ; Factor III=0.47 ; Factor IV=0.60 ; and Factor V=0.30. The reliabilities with the exception of Factor V are clearly in the expected ranges for questionnaire of this size and type, as per Nunnally (1967). But Factor V, being a borderline case, its reliability is also accepted provisionally.

STUDY 2

The different scores on the five factors embedded in the scale can now be obtained to determine their interrelations with students' school variables.

METHOD

The school alienation scale was administered on a sample of 30 students, 18 male and 12 female of the humanities stream of Class XII. The school characteristic measures were age, sex, attendance, marks obtained in test for promotion, classroom presentation, classroom questioning, and rapport with teacher. The last three measures were found out from the mean value of opinions of 3 teachers on a 5-point scale. The intercorrelations between the school measures and factor scores are given in Table 1.

RESULTS

The data in Table 1 revealed that none of the five measures on the alienation related significantly to age. There was a significant positive relationship between sex and alienation due to powerlessness. Comparing the mean score of girls with that of the boys, it was found that girls perceived themselves more powerless in comparison with boys. The annual examination score at the end of class XI correlates negatively with Powerlessness (Factor I) and positively with Normlessness (Factor III). This clearly suggests that for the purpose of scoring high one is to depend on attitudes beyond control of the in-

Table I

Correlations between the Factor Scores for the Five Factors of the School Alienation Scale and Student Measures.

School Variables	FACTORS				
	I	II	III	IV	V
Age					
Sex	44				
Test Score	-34		31		
Attendance				-50	
Classroom presentation					
Classroom questioning			34		
Rapport with teacher			38		-52

(Decimal point omitted in the factor matrix. Only the correlation coefficients between the variables and factors significant at .05 level are included. At 5% level, the significant r value for $df=38$, is atleast 0.30)

dividual as well as violation of values esteemed high by the group. Only the factor score on isolation is related to attendance and the correlation value is negative and high. As a student perceives himself lonely, he withdraws from the class by physical absence. None of the scores in five different alienation factors correlated with classroom presentation. The classroom presentation does not involve the 'will' of the students and they seem to do it mechanically at the teachers' bindings. The positive, significant correlation between classroom questioning and Normlessness (Factor III) may be explained as the tendency to prove one's worth by drawing teacher's attention as well as peer's admiration.

The rapport with teacher correlates positively with Normlessness (Factor III), and negatively high with Self-estrangement (Factor V). There exists perhaps no valid reason for the positive relationship between the rapport with the teacher and normlessness. The negative relationship between the rapport with teacher and self-estrangement suggests that the students perceive teachers bound by the rules of the system ; they are conformist and not change agents.

CONCLUSION

At the methodological level, the results of the first study combine to support the validity of the factor analytic measurement procedures employed. By combining certain relevant classroom criteria in the interrelated study that followed, the more definite assertion about the "meaning" of alienation within the school setting is made plausible.

But as is known, the factor analytic method is limited in several aspects and, these limitations in turn, restrict generalization. First, the sample of items was limited to those which seemed adaptable to the situation and the Ss for the studies were from two urban, quality schools. Needless to say, the tool developed needs further refinement.

In spite of these restrictions, the School Alienation Scale may be provisionally used by professional educators to explore the impact of their educational design, instructional methods and evaluation system on the plane of perception of the students. It is hoped such studies will be the ground works for a reorientation of educational system to socially meaningful objectives.

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THE USE OF STILL PHOTOGRAPHY AS LEARNING ASSISTANCE FOR THE LANGUAGE HANDICAPPED IN THE CLASSROOM

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The paper speaks of the use of still photographs as learning tool, particularly for the child who is handicapped by language and verbal communication. Analysis points out that photographs can reach beyond the limit where speech fails, thereby assisting learning to take place effectively.

When still photography was invented by Daguerre a century and a half ago, his wildest imagination would probably have failed him in envisioning the frontiers reached by his invention today. The marriage between the audio and the visual media seems to have injected life into the world of photography. For example, there are videos, movies and large format home televisions to name only a few. A child can tune in or tune out of the myriad of programs available to him. Now his leisure hours may be as challenged by video games as they were in the past by outdoor sports. Parents today are probably using more home movies and video tapes rather than still photography to record their children's milestones through life. Some may even be looking ahead to using holography for a three dimensional effect. Schools are reasonably well equipped to educate the child with the aid of such approaches. The question that arises after considering the animated walking and talking media is whether there is any room for still photography in today's classroom.

For the last thirteen years, my work with the trainable mentally handicapped, the learning disabled students and the children learning English as a Second Language has provided me with excellent opportunities to test out the different modes of visual teaching. While the films, the video and the television provide much general knowledge, good entertainment and the continuous sequential progression of an event, it is the still photograph which provides a student a quiet moment to stand and stare, to pause and study, to reflect and to contemplate, and to make decisions that alter his "feeling, thinking, and acting." A photograph is a tangible artifact which can be touched, held, arranged with other photographs, rearranged, kept for long periods or destroyed, all at the choice of the subject and/or the photographer.

Photography is of considerable value in providing assistance in learning situations. It is specially useful to the students who are handicapped in

language development for one reason or the other. Consider a child, Sunil, who had arrived from India only a week before school opened in September. He could speak little English but was duly enrolled in a regular grade one class which was appropriate according to his age. On the first day he was assisted through the routine carefully. The necessary procedures were explained to the class in English. From then on, Sunil was expected to follow the routine with reasonable independence and accuracy. For example, the teacher told the children to hang up their jackets and then to sit in a circle. Simple analysis can tell us that Sunil probably had caught two words—jacket and sit—and so half an hour later, he was still sitting in the cloakroom. There are ways of giving visual references to overcome such breakdowns in communication. A series of pictures may be used to help the children overcome the strangeness of the first few days at school.

Photographs can be used in literal, inferential and associational modes to teach and/or to enrich a child's knowledge. Initially, with young children, photographs may be used for literal readings for identifying the content of the photographs. The contents may be varied according to the subject's experience and knowledge and by the material to be taught. Objects can be identified, labelled and grouped together for classification into different categories. Photos may be personalized for developing an awareness of one's body image. Photos may be used in conjunction with tape recorders, thus using a multi-modal approach.

As the child gains knowledge and understanding of himself and his environment, he can be introduced to making inferences from the photographs. Discussion can be led into recognizing feelings and needs. For example, an unhappy looking face may be used for understanding causes, effects and remedies. A picture of a poorly groomed person can become the focus of the attributes that make a person properly groomed. Self-awareness is developed by noticing the differences in the picture taken before the change and the picture taken after the change. Communication includes miming, dramatizing, drawing and story-writing, sign language, and, of course, oral discussions.

Behavioral changes may also be brought about with the use of photos because they permit a child to study the picture at his own convenience and privacy and then to exercise "control from within" where it is needed. For example, the picture of a child lying in fetal position shows that he is deliberately closing out the external world. Verbal instruction had proved ineffectual in changing the behavior and it was not until he had seen himself through the photographs that he discontinued this practice in a short period of time.

The method of drawing inferences has also proved successful in improving the work habits of the class as a whole. Young children often indulge in trying out the limits to which they can digress from the expected classroom

behavior before they are reprimanded. Mild disruptive behavior such as aimless walking, talking, and interrupting occurring in classrooms is not unusual. However, in some circumstances such behaviors take up valuable teaching and learning time. A small project was implemented in a grade one class. Photographs were taken recording both positive and negative activities. The children were able to see the pictures without the involvement of the teacher. Then phototherapy sessions were held :

Some photographs were placed face down and the following questions were asked :

1. Where were the pictures taken ?
2. What do you think you may see in the picture you have ?
3. What do you wish to see ?

The photographs were turned over to show the pictures and these questions were asked :

1. Has your wish come true ?
2. Do you want to trade your picture with another person to make your wish come true ?
3. How many people have the same wish ? (consensus)
4. Would you like to group together to share the same wish ? (Nucleus group)
5. If your wish has not come true, would you like it to come true ?
6. What is the teacher's wish ? (relating to the class performance, it could be giving time out or stickers, or any other item for the satisfactory completion of work.)
7. Draw your picture to make your wish come true.
8. Write the text : "My wish that I My wish came true."

No mention was made of the actual behavior or the need to change. The "attention seeker" received attention positively and the ultimate goal was accomplished by drawing inferences rather than by direct comments upon the behaviors.

When photographs are used for teaching by association, the child learns to identify or to associate himself with some aspect of the content or reference made by the photograph. Pictures of facial expressions, showing emotions such as happy, angry, sad, and surprised, can be shared with children who may be unable to express their feelings or are shy enough to withhold exhibiting such expressions. Self modeling, peer modeling, teacher or parent modeling provide an excellent means of associating with ideas beyond

the content of the photograph itself. A picture of the bus used to take the children to a farm is sufficient to trigger a "discussion" on the topic of field trips. A picture of a child with a book could easily lead one to recall other reading experiences perhaps in his home or at the local library. Imagine the associations a child can make on seeing a friend blowing out a birthday candle. Endless learning opportunities become possible to the child as he shares photos with others.

This presentation barely touches upon the use of still photographs as learning assistance for the child who is handicapped by language and verbal communication. It was shown that photographs can reach beyond the limitations of speech so that learning continues to take place effectively.

RECENT TRENDS OF TEACHER EDUCATION FOR SECONDARY SCHOOLS IN U.K. AND INDIA.

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The paper describes the developments in teacher education in the U.K. and India since 1970. In U.K. the change concerns mainly the structure of courses and increasing importance to one year PGCE courses.

In India, during this period the NCTE prepared "Teacher Education Framework" has influenced the curriculum changes. Teacher education in India lags behind to update the curriculum. Trends of changes have been pointed out for both the countries and suggestions for improvement in India are made.

Teacher Education during seventies in this century faced lots of criticisms and was attacked from different corners of the society. In the developed countries the pressure on Teacher Education resulted from the fall in birth rates and the decline in need for teachers as Bone T. (1980) indicated. These are also related to the failure of education to meet over-optimistic expectations of the public. All these causes created criticisms round the process of preparation of teachers.

For the developing countries, the criticism grew from a different angle as the causes are different. It centred round the nature of the education provided in schools which was often irrelevant to the needs of the community served. Thus the expectations of the public demanded the production of new kinds of teachers by the teacher training institutions to meet the needs of the developing nations.

In different countries, the response to these pressures has come partly through structural change and sometimes through revision of curriculum, methods and learning materials. In the words of Bone, T. (1980) "At the beginning of the 1970's teacher training was said to be too diffuse, too superficial in its coverage, insufficiently professional in its own approaches, and too haphazard in relation to teaching practice. Now after a period which has been difficult in most countries and traumatic in some, it is common to find new forms of organisation and new patterns of training in existence."

The present study deals with the developments of teacher education in U.K. and India since 1970 and aims to find out the present trends of Teacher Education in both the countries and their distinctive differences in the systems.

In U.K.

At present there are about 33,000 schools in England and Wales which are maintained or aided by public funds, involving half a million teachers.

The number of enrolled candidates for training in 1981 was 19,560. Some of those followed a one year Post Graduate Certificate in Education (PGCE) course while others followed a 3 or 4 year Bachelor of Education (B.Ed.) degree course. "Teacher training now takes place in single purpose colleges of education, as well as in multipurpose colleges of higher education, polytechnics and universities." (The British Council, 1978).

As the one year PGCE course following the BA/BSc degree course in U.K. is comparable to B.Ed. degree in India which is also one year course after Graduation. I shall, in the main, limit my study to the developments and pattern of PGCE course.

PGCE COURSE IN U.K.

Alexander, (1984) expressed the view that 'The one year PGCE has been a remarkably constant and stable element in the teacher training system for the whole of the present century. Its evolution has been gradual (some would say excessively so). . .', Before the 1970's three or four year course (B.Ed.) was the chief means of teacher supply and PGCE was a minority route. Until the early 1960's the PGCE (or 'Dip Ed' as it was commonly called) was located mainly in the universities. During the period 1963 to 1973 the admission to PGCE was increased by 280 per cent (DES 1982a). DES (1982b) showed that 85 per cent of PGCE trainees teaching in secondary schools in the year 1981. According to Bone, T. (1980) "England and Wales, where for a long time non-graduates were allowed to teach in secondary schools, are now moving over almost completely to degree courses; courses leading to diplomas have not been offered since 1978, even to primary teachers. ...In countries like Scotland where that position has not yet been reached, the Colleges of Education have been arguing for it strongly and their lack of success to date is only due to the reluctance of the Government to incur additional expenditure."

Tuck (1971) provides a standard PGCE course structure of the 1960's, which is as follows :—

- Elements :
1. Teaching subject method
 - 2a. Principles of history and Philosophy of Education
 - 2b. Educational Psychology and Child Development
 3. Teaching Practice

Structure :

Term 1	Term 2	Term 3
1 week orientation	10 weeks Teaching Practice 'helped by the staff of the schools and visited by the tutors'	6 weeks' Lectures (1, 2a + 2b)
3 weeks' preliminary Teaching Practice		Examinations in Education
8 weeks' Lectures in 1, 2a and 2b		2 weeks method preparation and assessment

Thus 30 weeks : 17 in the College
13 in schools

Assessment : 2 examination papers
Dissertation (written in the Easter vacation, and
submitted at the start of Term 3)
Method file/project.

The basic sequence—University/School/University were mostly paralleled in many UDE's (University Departments of Education). Variations in the constituent elements included changes in the nomenclature like 'General theory' instead of 'Principles' at London University and the inclusion of options and/or all-purpose general tutorials as mentioned by Alexander (1984).

He also pointed out that after 1970 many PGCEs often showed innovations related to terminological facelifts confined to cross structural elements. Examples include the use of terms like 'Core studies' or 'Professional Studies' instead of the previous three disciplines 'Principles of education' approach. In such changes of titles like 'The adolescent pupil' from 'Psychology of education' can be identified as more relevant. Method courses made increasing use of micro-teaching. In teaching practice the single term block teaching practice had been replaced or complemented by day/half day 'attachments' in one or both of the other terms, of linked school experience. It also incorporates specific observational, investigative and teaching tasks.

The component like 'school experience' shows a great variation in its approaches. It varies from half day attachments, one day attachments to short or long blocks. School experience may be in one term only, in two terms only or may be distributed in all three terms. It may also be as practice, as investigation, as observation and assimilation. Alexander and Whittaker (1980) recorded the patterns of school experience in five PGCE departments in 1979 showing considerable ranges of variations.

School Experience pattern in Five PGCEs in 1979

Institutions	Precourse	Term 1	Term 2	Term 3
A	2 weeks	3 days attachment 6 weeks block	4 days attachment	2 days attachment 6 weeks block
B	2 weeks block	8 weeks block		
C	2 weeks	10 weeks block		

D	2 weeks	3 days per week throughout	3 days per week throughout	3 weeks block + occasional visit
E	2 weeks	1 day per week	10 weeks block	Occasional visit

Smith (1982) identified three main dimensions of change, when he analysed the PGCE courses. These are :—

- (1) The courses *pedagogic approach* 'tutor directed' to 'student self-directed' (HMI's didactic/exploratory continuum, DES 1978).
- (2) The extent of *School-based activity* : attachments, block, etc.
- (3) The extent of boundary maintainance :
 - (a) within education studies (disciplines—themes/integration).
 - (b) between education studies and method.

Smith also maintained that the trends are towards more reflexive, less didactic pedagogy, with more variable patterns of school experience and towards integration within education studies but not between education and method. However Chambers (1982) expressed that in spite of all the qualities of Smith's study it was based on what people say rather than what they do. The school experience variations were analysed quantitatively rather than qualitatively. He held that the proper focus for analysis should be the kind of view of the teacher and the school which a course embodies and towards which its efforts are directed.

There is also a marked tendency of change in the process of assessment in teacher education course where the examination papers are gradually becoming replaced by assignments like essays and projects. These are mainly assessed internally. Such assessments are usually checked by external examiner or examiners appointed by the university.

Patrick et al. (1982) observed a wide range of activities on teaching practice—over three quarters taught mixed ability classes, almost 60% took pupils preparing for 'O' level and CSE examinations and less than 50% for 'A' level teaching. They also found that about 25% of the students seemed to have taught subjects during teaching practice for which they had not been previously prepared.

Regarding "feedback" about the teaching practice Patrick et al (1982) expressed the view that the feedback the students received was in the form of discussion by the supervisors immediately after the lesson. A high proportion of the students also received written comments on the teaching by their supervisors. In their report they mentioned that most criticisms were

in the areas of speech and voice problems, questioning of pupils, use of blackboard and classroom management, as the students admitted to them. In addition, there is some evidence that the men and science students received more criticism than the average. The kinds of criticism the students admitted to receiving were somewhat different from their own identification of the problems which they faced.

Regarding teaching methods used they observed that the departments with separate theory courses mostly depended on lecture alone. On the other than the departments with integrated courses were more likely to have used seminars or a combination of seminars and lectures. In some institutions they also noticed varieties in the form of films, visits and practical work.

IN INDIA

Appreciable expansion has occurred in the field of school education since 1947 when India attained her independence. According to Gupta and Patni (1984) "While the total number of schools in the country in 1950-51 was 230,555, the total number of schools in 1979-80 had risen to 369,871. Enrolment in the schools in 1950-51 was 23.5 million whereas the enrolment in 1979-80 was to the tune of 103 million. With the increase in the number of schools and the enrolment, the number of teachers also increased with the result that from 1,514,000 teachers in the schools in 1950-51, the number of teachers in all schools had gone up to 3,006,582 in 1977-78. ...the number of teacher training schools and colleges in the country has increased from 885 in 1950-51 to 1360 in 1977-78 ...". Mathur (1984) mentioned that in India, the proportion of trained teachers to the total numbers of teachers in service is about 60 per cent—two out of every five teachers are untrained. At present there are a number of institutions in almost all the states of the country imparting instructions to the prospective teachers for the elementary or secondary schools. These can be classified vertically as well as horizontally.

The institutions may be classified into pre-primary, primary and secondary education when viewed vertically.

For secondary teachers the training takes place in (1) the colleges of education or training colleges, exclusively meant for imparting training to the teachers leading to B.Ed. degree, as well as in (2) the departments of education attached to arts colleges giving training up to the B.Ed. level, and (3) university departments of education. In university departments and in some departments of education in arts colleges M.A. in education courses are also provided. There are some Senior Basic Training colleges which also train secondary teachers leading to Post Graduate Basic Training (PGBT) diplomas from the directorates of education of different State Governments.

Pörtia (1984) wrote that it must be said that there is no 'Indianized' teacher education in our country. Whenever we want to introduce changes in teacher education, we are only trying to emulate the foreign models. The methods and techniques which were developed in the foreign countries are included in the syllabi at the B.Ed. levels.

In 1972 the Government of India decided to establish a National Council for Teacher Education consisting of 41 members. The union Minister of Education would be president, and there would be representatives from each State Department of Education, one representative from each of the bodies like UGC, AICTE, CABE, Planning Commission, NCERT and 12 experts from teacher training.

As in the recommendations of the first meeting of the general body of NCTE, State-wide working groups were set up in 1974. These 26 working groups studied teacher education in the country. They pointed out the following main issues :

- (i) No manpower planning with respect to teachers has been done.
- (ii) The quality of students seeking admission to teacher training institutions has gone down due to the lack of proper admission procedure.
- (iii) There is a dearth of good reading material produced in India related to teacher education.
- (iv) The staffing pattern and staff student ratio show wide variations from state to state.
- (v) Physical conditions are generally weak in private aided training institutions.
- (vi) Research in teacher education has been a neglected area.
- (vii) Necessary steps need to be taken to ensure uniformity of standard in teacher education in all the States.
- (viii) Steps need to be taken to keep every teacher educator abreast with the latest developments in his subject content, methodology of teaching and in the areas of his professional organisation.

The usual pattern of teacher training at the secondary level is to have one year training in the secondary training colleges for graduates in Arts and Science. After one Year's stay at the training colleges the would be teachers get the B.T. or B.Ed. degree. The degree is usually awarded by a university.

The general pattern of the one year course usually followed by the different Universities during 1970's shows a broad division into two (i) The theoretical part & (ii) The part concerned with practical skills.

The external examination dominates over the course where the weighting of marks roughly stands as $2/3$ for theory and $1/3$ for skills related to teaching.

The course structure includes—

Part—(i) (Theory)

Compulsory subjects—

1. Theory and Principles of Education.
2. Educational Psychology.
3. General Method School Organisation and Health Education.
4. History of Education and Current Problems.
5. Compulsory Elective subject (one to be studied from a number of subjects e.g).
 - (a) Mental and Educational Measurement
 - (b) Mental Hygiene
 - (c) Social and Abnormal Psychology
 - (d) Backward Children
 - (e) Education in Ancient India

6 and 7—Teaching subjects (Method subject), any two from a number of school subjects like (Contents and Methods of Teaching)

Modern Indian Languages (any one suitable for the State), Hindi, Urdu, Sanskrit, English, History, Geography (or Social Studies in some universities), Mathematics, Physics, Chemistry, Life Science (or General Science in some Universities), Home Science, Economics, Music, Art.

Part—(ii) (Practical)

- (a) Works related to skills in teaching :

To teach 20-50 lessons during the course of training (number of lessons in teaching practice varies from 20 to 50 according to the different universities).

The teaching practice varies from a continuous one and half months to two to three days per week throughout the session in different universities.

- (b) sessional works including—

- (i) Tutorial Essays
- (ii) Teaching aid preparation and improvisation

- (iii) Participation in Social and Physical Education
- (iv) Preparation of lesson plans
- (v) Crafts, Art, Wood craft, Paper craft etc.

Assessment includes—External Examination having about 900 marks and about 100 marks for internal assessment. There are six to seven theory papers of 100 marks each and two to three practical papers including teaching practice and laboratory practicals which cover 200 marks in total.

In 1978 the National Council of Teacher Education prepared “Teacher Education Curriculum—A Framework” keeping in view the changing pattern of education in the country. In this framework detailed discussion has been done on objectives of Teacher Education at the pre-school stage, Primary stage, Secondary stage, Higher Secondary and Collegiate stage. In this framework the courses have also been radically revised for all stages of Teacher Education. The stagewise courses with weightages of Teacher Education have been suggested in the framework. The courses and weightages of Teacher Education at the Secondary stage are as follows :—

Secondary stage :—

- | | |
|---|--|
| A. Pedagogical theory—20% | <ul style="list-style-type: none"> (i) Teacher and education in the emerging Indian Society. (ii) Educational Psychology. (iii) Special courses according to the needs and facilities available. |
| B. Working with the Community—20% | (iv) Work situations related to (i) (vi), (vii), (viii) and (ix). |
| C. Content-cum-Methodology and Practice Teaching including related Practical work—60% | <ul style="list-style-type: none"> (v) Core training programme—10%. (vi) Special Training Programme Package—I :
Life Science/Physical Sciences, Social Sciences/Languages/Mathematics—20%. (vii) Special Training Programme Package-II : Work experience—10%. (viii) Special Training Programme Package-III : Health, Physical Education, Games and Recreational Activities—10%. (ix) Related Practical work—10%. |

A number of states have changed their curriculum of Teacher Education in the line of the NCTE framework. Some other states are going to change their Teacher Education within a year or Two.

DISCUSSION AND CONCLUSION

The developments of teacher education since 1970 in U.K. have shown a trend towards a more student-self directed approach and a less didactic pedagogy. There is a trend towards the integration of the earlier three or four disciplines to a 'core' or 'professional' studies. The method courses have made increasing use of microteaching and the single term block teaching practice has been complemented or replaced by day/half day attachments in one or more terms, of linked school experience with observational, investigative and teaching tasks. Thus in U.K. there is a clear shift of the importance from discrete and isolated theories to a more integrated and school centred practical based learning.

In India the present teacher education course developed by the influence of the English teacher education system, but for a number of reasons it remained at a stage comparable to that of the early nineteen-sixties in Britain. In the theory portion the four general disciplines (Principles, Psychology, General method and History of/in Education) still exist as separate units.

In the NCTE "Teacher Education Framework" attempts have been made to integrate some of the four general 'disciplines' of the Teacher education course. The process of such integration is just a beginning. The integration among the general educational elements and the method subjects is still lacking. The task of integration of all the varied and isolated inputs that had to be made are left for the learners which demands a process of high level cognitive capacity. It should be kept in mind that separate study of philosophy, Psychology and methods may achieve little, but a study of how these can be applied to the learning of particular school subject or subjects might be profitable. Thus to make the teacher education course more professional in its makeup it is important to organise the subject matters in the curriculum on a cross disciplinary basis.

In the teacher education institutions in India the methods of instruction followed are mainly didactic, through the teacher educators in these institutions preach for activity based modern methods of teaching. Is it not the proper time to give up such hypocrisy? Should not the teacher educators impart their instructions through group activities, workshops, activities in the form of theory related practical works than dry lecturing?

The method courses of the teacher education curriculum courses only about 40% of the subject matters including teaching and other laboratory

based practical work. The content oriented method approach needs much more attention and care from the curriculum framers. More emphasis should be given on school based teaching practice work. The schools should be brought closer to the training colleges by more involvement of the school teachers in the training college programmes both curricular and co-curricular.

Regarding assessment, it is very clear while in U.K. the trend is toward's course work assignments, Projects and practice teaching, in India it is largely inclined towards the traditional examination techniques. The assesment techniques in teacher education in India also needs proper change to make the course more professional. The external examination centred course makes it a means of acquiring a diploma than acquiring skills and knowledge necessary for the teaching profession. The internal assessors are the best judges of the performance of their pupils as they are more deeply acquainted with the students' activities than the external examiner. The internal assessors' marks may be verified and moderated by the external examiner or examiners.

It is also important to spell out the aims and objectives of teacher education and its components on specific behaivoral terms. This will help the teachers and teacher educators to create a more meaningful and suitable teaching learning situations. This will help to form proper attitudes towards the subject and curriculum while purpose for study would be clear to the learner. Lastly it is important to make provision for 'training the Teacher Trainers' as a continuing process, as they need personal updating. It would help to bring novelties and innovations in teacher education. It would also make teacher education more realistic and upto-to-date.

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INTELLIGENCE AND SOCIO-ECONOMIC FACTORS AS PREDICTORS OF ACADEMIC ACHIEVEMENT

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The correlates of scholastic achievement are numerous, some of which are categorised as intellectual factors, others being regarded as personality characteristics. The present study is designed to ascertain the interrelationship between intelligence, socio-economic status and academic performance.

One of the important problems faced by the educational administrators to-day seems to be accurate prediction of future success of students in academic performance both in schools and colleges. In the past, too, this problem has drawn the attention of the psychologists. But this is assuming greater importance day-by-day as the pattern of education is growing more and more complex. Several determinants have emerged as potential predictors of academic achievement of which intelligence is the only variable. Relationship of other factors to academic performance is still to a great extent uncertain. It is, however, equally true at the sametime that intelligence, by itself, is not found to be a perfect predictor. There must be some other factors as well along with intelligence. Intelligence and aptitude tests have been used very widely at all levels of education for predicting academic success. Though in India, not many studies are available in this area, in foreign countries specially in U.S.A. a large number of studies have been conducted.

From the very few studies conducted in Indian Universities one thing seems to be very clearly evident that no intelligence test could explain more than twenty five percent of the total variance of success in any school subject. In one study it is revealed that the maximum correlation between verbal intelligence test and the aggregate marks is near about 0.47. Extensive data are available regarding tests of general intelligence as related to academic performance. The general conclusion that may possibly be drawn from these findings, has been stated by Crawford : "To state that typical correlation with school or college averages run between .40 and .50 is a rough thorough-fair generalization ; considerably higher or lower coefficients than usually found have at times been reported even for identical measures in different administration."

In fact, almost all investigators agree that even the most refined intelligence and aptitude tests do not explain more than fifty percent of the total variance of scholastic success.

The main purpose behind the present study is to see if there exists any relationship between socio-economic variables and academic performance of high school students. It is hypothesized that if socio-economic factors are related to scholastic achievement, they must be significantly correlated with achievement after the effect of intelligence is taken out. To be specific the present investigation is centred round the following issues, namely, (i) to determine the relationship between socio-economic factors and verbal intelligence, (ii) to examine the extent of relationship between verbal intelligence and academic achievement, (iii) to ascertain the relationship between socio-economic status and scholastic achievement and (iv) to study the effect of socio-economic variables on academic performance when the influence of verbal intelligence is partialled out.

METHOD

Sample

Population in the present study referred to High School students in rural and urban areas of West Bengal. The sample comprised three hundred thirty eight students selected from as many as fifteen Madhyamik schools. The age range of the students varied from twelve to sixteen belonging to standards from VII to X. One hundred sixty six boys and one hundred seventy two girls were included in the sample. No high claims were, however, made that the sample was truly representative but the chances of bias had been minimized. The sample of students selected for the purpose of the present study is shown in tables 1 and 2.

Table 1

Sex-wise Representation of the sample selected from different schools according to classes

Sex	Class VII	Class VIII	Class IX	Class X	Total
Boys	24	87	16	39	166
Girls	—	15	65	92	172
Total	24	102	81	131	338

Table 2

Urban and Rural representation of students according to Classes

Places	Class VI	Class VIII	Class IX	Class X	Total
Urban	24	34	31	57	146
Rural	—	68	50	74	192
Total	24	102	81	131	338

INSTRUMENT

The study involved an assessment of three variables, namely, intelligence, socio-economic status and achievement. Socio economic status was assessed in terms of composite scores on income, education and occupation levels about which information was elicited from the students through a socio-economic status scale (Singh, 1981). Achievement was assessed in terms of percentage of total school marks. Intelligence was measured with the help of a verbal group intelligence test (Bose and Pal, 1952).

PROCEDURE

The dependent variable in this experiment was the scholastic achievement which was defined as the total marks in all the subjects obtained by each student in the annual examination. It was usually held that school marks were not good criteria of scholastic success and their reliabilites were often questioned. But for want of any other better alternative, school marks were taken into consideraion as an index of achievement. The independent variables are intelligence and socio economic status. All the tests were administered by the investigator. The S.E.S. scale and the intelligence test were administered on the same school one after another. After having collected the data on the basis of the foregoing instruments, school marks for all the school subjects were accumulated for all the students.

ANALYSIS OF DATA

The data collected and statistically analysed for the whole work included the following :

1. Scores on verbal group test of intelligence
2. School marks for 338 students in school subjects
3. Scores on Socio-economic status scale
4. Intercorrelations between intelligence and achievement, between intelligence and socio-economic factors as well as also between Socio-economic factor and achievement

5. Partial correlation between intelligence and achievement, when the influence of socio-economic factor was partialled out
6. Partial correlation between socio-economic factors and achievement, when the influence of intelligence was partialled out
7. Multiple correlation (R_1) and regression equation were calculated.

For statistical analyses the following symbols have been used and the results are shown in Tables 2 through 5.

X_1 = School marks X_2 = Intelligence test score

X_3 = Socio-economic Status score

Total number of observations, $N = 338$

Table 2
Intercorrelation amongst three variables

Variable	Mean	Standard deviation	Inter-correlations		
			X_1	X_2	X_3
X_1	49.9112	11.3364	1	.47069*	.17732*
X_2	29.6183	8.19579		1	.25625*
X_3	45.8136	15.4873			1

* $p < .01$

Table 3
Facts about regression of X_1 on X_2

r_{12}	R^2_{12}	F	df	R	regression constant
.47069	.221549	95.63*	1.336	.65106	30.6279

* $p < .01$

Table 4
Facts about regression of X_1 on X_2 and X_3

Variable	regression coefficient	t	df	R	regression constant
X_2	.62955	9.1468*	335	.47433	29.2209
X_3	.044424	1.2195	335		

* $p < .01$

Table 5
Partial correlation coefficients

partial r	Value of partial r	t	df
$r_{12.3}$.44703*	9.1468*	335
$r_{13.2}$.06648	1.2195	335

* $p < .01$

RESULTS

From statistical analyses it is evident that

1. Correlation between school marks and intelligence is highly positive and significant at the .01 level (Table 2).
2. Correlation between School marks and socio-economic status are positive and significant at the .01 level (Table 2).
3. Correlation between intelligence test scores and S.E.S. Scores is positive and significant at the .01 level (Table 2).
4. By partialling out the effect of S.E.S., the correlation between school marks and intelligence is highly positive and significant (Table 5).
5. By partialling out the effect of intelligence the correlation between school marks and S.E.S. is low and not at all significant (Table 5).
6. The regression equation of marks on intelligence and S.E.S. scores indicates no significant contribution from S.E.S. towards marks (Table 4). The corresponding equation can be given as $X_1 = 29.2299 + .62955 X_2 + .044424 X_3$

The regression equation of marks on intelligence alone can be given as Table 3 showing $X_1 = 30.6279 + .65106 X_2$

Obviously, as the contribution of S.E.S. towards marks is not significant we can use the second regression equation only for prediction purposes.

DISCUSSION

It is difficult to ascertain whether findings would persist and maintain their character, if the experiment was continued long enough with larger number of cases included in the sample. But one feature seems to stand out very clearly that the relation between intelligence and academic performance was

firmly established. As regards the relationship between S.E.S. and scholastic achievement our findings pointed to the conclusion that it would not be possible to predict the academic achievement of the individual children from the Socio-economic level of their families alone and this was in close conformity with the Chopra's study (Chopra, 1964). It is further observed that the relationship between intelligence and socio-economic status was positive and significant and this is corroborated by Mathur (1963), who reached the conclusion that the percentage of students belonging to higher S.E.S., was high for superior intelligence, although Chopra's findings did not imply that children from the higher socio-economic group were bright and that from the lower S.E.S. group were dull. In fact the correlates of achievement are too numerous for complete description. There is, therefore, every reason to conclude that further investigation is necessary for arriving at some general conclusion of dependable validity.

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PARADOXICAL EXPERIMENTS AND OUR PRESENT-DAY EDUCATION

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The paper speaks of the experiments carried on occasionally after Independence with the prevalent educational system in India. The result as obtained so far is far from making the educands as ones who require knowledge to operate in his environment, to live and to imbibe a spirit of destroying disruptive forces among themselves. This short treatise also highlights the suggestive measures to develop a dysfunctional spirit among the students and among the people in general for ushering in a healthy social change through our educational system from the context of Indian heritage and culture.

Ever since independence we have been living, it appears, in unsettled times. For over three decades we have been grouping for a well thought-out and integrated policy on education. Successive Governments of different hues have busied themselves with experiments on the education system with dismal regularity. Students continue to be guineapigs in the process. Over the years education seems to have been the safest sphere for Governments to demonstrate their progressive zeal or innovative genius. But the damage caused cannot be measured as easily as that caused by experiments in the fields like industry and commerce. Moreover, this frantic attempt among the social and political leaders for bringing about short time changes in educational system has never been observed in any part of the world, be it socialist or democratic.

Changes As Introduced

The old class X (Matriculation) system was first replaced by 11+3 and 10+1 (Pre-University)+3 which has now been changed to the 10+2+2 (three in the case of Honours). These frequent changes in the patterns and content of education within 20 to 25 years reveal lack of constructive thinking at the top. The sole aim of the background personnels for bringing about this dismal and rapid changes in education system is to keep students, teachers and guardians on tanterhooks. Before one is able to adjust oneself to a course, reformers impose another system, presumably in the pious hope of stugging some of the loopholes of that system. And the new system is by no means foolproof. We are loosing time and our scarce resources in trials, revisions and evaluations.

Changes in the educational structure and syllabi have emerged at the top and worked downwards. They have never tended to go up from below, from serious teachers who actually breathe in the daily chalk dust of experience. Hence the polarization between the old and the new, between the organisation and the spirit, has been quite sharp. Most teachers find it difficult to overcome their initial resentment of impositions from above. The Government's exhortatory role accompanied by issuing injunctions stands in the way of forging a new spirit of partnership with teachers in exploring new frontiers. The self-respect and self-reliance of teachers are never enhanced in this way. As a result they are at present looked upon by students, guardians and even general public as mere subservient instruments of executing administrative impositions into workable practices. Their innovative genius and free enterprise seldom receive proper weightage at the intervention of power mongering individuals, some of whom are at the helm of administration and some are fondled with undue favour by the political executives. It is curious enough to mention that of these individuals there are some teachers who never hesitate to do any type of heinous activities with a view to achieving undue favour from these activities.

Teachers' Understanding And Acceptance.

To make a system workable it is necessary that teachers understand and accept the reforms. Innovations in the method and content of teaching are of little value unless they inspire faith in their practitioners. The efficiency of a medicine has little to do with the faith or lack of it of the persons who administer it. But what the teacher achieves is in a large measure a function of what he believes in. When a teacher uses a technique which he has accepted but not understood, it can, by some strange inverted alchemy, turn the most shining idea into lead. The faith of a teacher in the method and content of teaching is as important as the faith of a soldier in the cause he fights for.

Since the most educators and educationists are illorganised and averse to be drawn into unpleasantness and controversy, those less qualified to assess the educational needs of society enjoy a field day when they initiate changes in this field. There has always been a conspiracy on their part to pretend that a consensus exists about what they are going to do. This is how Government intrusion occurs into the content and processes of the education system.

Changes Brought About without Proper Judgement.

When changes take place of such break-neck pace, it is difficult to exclude fads. A cursory examination of the present school and college curricula would confirm this. Too much has been made of the vocational value of the Plus Two Stage, while the demand for vocational skills is extremely

limited. Moreover, job training becomes quickly obsolescent, as job requirements change rapidly. Introduction of work education in the secondary school curricula and the language policy at the degree stage are instances of this. These radical departures in curricula are easily noted but have minimal impact on the inculcation of human values through the present-day education system. Any change, it is accepted by all sane personalities in our country and abroad, is not necessarily a sign of advance. This is not to argue against change but for a more sensitive recognition of what is at stake.

Changes in the educational field have been rushed through every time without doing the necessary spade work in training teachers, writing textbooks, giving a new look to the laboratories and replenishing libraries. While the school syllabus has been changed a number of times, that for training teachers has remained the same over the years. How can teachers keep pace with the world of their students which has undergone a sea change?

Successive academic arrangements have proved short lived and their goals transient. Who knows that in a few years the present system will not be replaced by another?

The zeal with which changes have been imposed on schools and colleges has been dampened many times in many cases by the bureaucrats who have had neither sufficient time nor understanding to issue clear instructions on how they should be implemented. The old custom of regular inspection of schools and colleges by inspectors and the Director of Public Instruction seems to be on its way out, the official duties of inspectors appear to be so heavy that they are not able to help teachers who need more guidance in their work today under changed conditions than they used to do in the past. Moreover, inspectors of the day are not at all well-equipped with the technical know-how of the present-day education system. Hence their competency in this respect calls for grave doubt and big query.

Formerly, principals and headmasters used to be good and conscientious teachers. Today they are so busy with office and administrative work that they have hardly any time to attend to teaching. Partisan politics is an every day affair of campus life. Administrative heads have not only to cope with crises but have to be full-time political operatives as well. Multifarious duties await them and they cease to be teaching members of the staff.

Doldrums markedly visible in our Education system

The foregoing discussion depicts a penpicture of the present day education system, especially in West Bengal, and stand in the way of inculcating humanity and divinity that are already in man. As a result a wide spread criticism is being made from all quarters that education as a social institution in India has utterly failed to deliver the goods. We have heard about the miserable failures of the educational efforts in Hitler's Germany; Mussolini's

Italy and king Hirohito's Japan in several awe-creating and hair-raising accounts. We are at present hearing about the dysfunctionality of the American system of education for the American society (vide : Future Shock by Alvin Toffler). Paulo Friere (1972) has proclaimed that education in developing countries like Brazil and also India has become one of the major instruments for the maintenance of the "Culture of silence" of the dispossessed or oppressed masses. Following the proclamation upheld by Paulo Friere it can be stated that the present day educational system in our country has belied all hopes and is in need of an immediate and emergent attention or operation by which men who will be processed through education can perceive, interpret, criticize and finally transform our society about them.

Paradoxical Experiments that are still being done with our education system

With the above context in view the experiments that have been and are being done with education in our country have proved to be paradoxical nature and have become dysfunctional to meet the goals of societies in their specific contexts of our country. Except the causes already pointed out there are other causes advanced by countless people of different backgrounds and of different group-interests. Teachers blame politicians for this, while the politicians blame the teachers and social planners. Students blame educational administrators and teachers, while the latter slur on the former. The poor parents blame the rich parents and middle class parents for grabbing all educational facilities, whereas the latter blame the former for lowering the standards of education. The teachers and students have also learnt the politicians' art of verbalising or slogan mongering and of staging bandhs, gheraos, strikes and acts of violence in advance of their discovering reasons for them. The religious people and elders in society are blaming the Western-educated scientists, teachers and educational bureaucrats for imposing on us academic colonialism and a set of false or pseudo-modern values and for banishing religion or morality. India's proverbial utterance is an often-quoted factor. In sum, every body is trying to make the other group a scapegoat for the educational failures of our country, which have now created afrightening "cultural crisis" for all of us today..

While all these causes or factors are true, the most important or the most fundamental cause of the failure of education as a social institution in India in general is that our social science have so failed to evolve a proper conception of man and society, and of the role education has to play therein.

Functional conception of education

Education in itself is no discipline. It is based on foundational disciplines—mostly philosophy, sociology and psychology. In modern sociology and social psychology we have certain dominant conceptions of man

and society, and these conceptions of the reality of man and society have been the bases on which our modern education has functioned and failed. These conceptions, as all of the Indian Scholars, social reformers and educators in the past held, lie in the fact that man is not basically an animal having debased nature, full of hatred, envy and egoism; man is divine, and this divinity can be infused through education. We have failed to achieve this ideal today for the paradoxical experiments that are being done and prevalent in our education system. Because these experiments do not actually reflect what is called in sociology the "conflict school of thought" or the "conflict model of society", according to which "the basic condition for social life is dissention arising through the competition for power and advantage between groups". (Inkeles, 1954). The Marxian contributions to the sociology of social stratification and sociology of knowledge are based on the theory of class conflict among the social classes, the ultimate aim of which is to minimise endless distrust and tensions among people of different social class origins. If we go through the pages of the current books on sociology and political science, we find enough evidences of this conception of reducing class tensions and group conflicts authored by Marxists, Marxists-Leninists, Neo-Marxists, Maoists and the like.

Which way will this conception of human society be passed on to us by Marxists and the other votaries of the conflict school of thoughts and ultimately lead to us? This is a fundamental question.

Roles of Politicians, Educationists and Planners

Our social reformers, rulers, so-called radical educationists and educational planners and administrators, are today trying to infuse such ideology in the content of education to be provided to the children of our nation in the name of 'Socialism through education'. What will be the future of our younger generation as a result of such transplantation of an ideal which has positive association with the long time-honoured value system embedded in Indian life process from the time immemorial and passed through various forms of trials? If we fail to answer to this query effectively and find out correct perspective at the earliest, we as a nation will be destined to be doomed, because this attempt of reshaping our present-day education instead of taking off the disjunctive social process as will surely enhance among our young generation unhealthy group rivalries, violence and inter-and intra-personal malice. Hence it should be the duty of our educationists holding different political ideologies to see in society the expression of Divinity and to use all their skills and efforts to process one young mind through the right type of education that will help promote the welfare and prosperity of society. For this our education system and educationists are to be kept free from the

environment that is usually vitiated today by the power-mongering people. It is to be kept in mind that the brotherhood of man can be translated into life only on the basis of the *atmic* vision which can be achieved only when all the educationists, teachers and students will be able to univocally leave our social class prejudices in our mutual interactions and to work sincerely in the direction of developing healthy, pious and non-violent social contexts of teaching and learning in our schools, colleges, universities, homes and in all other agencies or areas of socialization.

According to the "Theory of Reference Groups" it is not the individual who can freely decide his role-performance or behaviour, but it is actually the whole mass of the expectations, positive or negative, of his reference groups, i.e. people or groups surrounding him cognitively or mentally, which dictates his choice of behaviour or role-functioning in the society. The importance of the individual in chartering his own course of action freely and intelligently is thus belittled in this connection. The belittling is due to the paradoxical experiments that are frequently being done with our education system and are causing much obstruction before the educationally processed young generation to eschew the Principle of 'Reference group', because these experiments have done and being done for achieving personal interest or in the name of ensuring social welfare through the individuals who are being processed by the present-day education system, and have faced utter failure by providing the young generation with the 'reference group' that cannot dictate their role-functioning in the society in which they live and prepare them effectively for evolving new wholesome value-systems in the context of the prevalent values embedded in the Indian traditional life-pattern. As a result of this, men of the day in India cannot exercise their own sense of discrimination in any social action and even act with a high sense of responsibility. They are also being incapable of having the dignity of the enlightened leaders and getting themselves dedicated to any social cause. They are being subject to mere pawns, slaves of scape-goats in the hands of the others. They are shaping their conduct according to the opinions of the others. They are failing to follow bravely, gladly and steadily the rational promptings of their own awakened conscience, their own inner self. This is the net outcome of our modern education.

Besides these the frequent changes that are being made in our education system in the name of preparing the best form of the future generation lay great emphasis on the failure of bringing about ego-identity among the educand. Its consequences are marked through ever growing tensions, conflicts, miseries and complexes of various kinds, and also put overemphasis on inflating their ego.

Modern craze for repatterning our Education System

The modern craze of our social scientists, educational reformers and planners and political high-ups is to repattern our age-old education system after the elusive concept of modernity. We, in India, have been indoctrinated by many foreign as well as Indian social scientists and political person-nels to believe that modernity and tradition are necessarily antithetical or contradictory to each other. But this very stand as taken up by them is fallacious. Because the great Indian person-nels like Vivekananda, Rabindra-nath, Gandhiji, Dyanand and the like have shown by their reformative activities how many of our traditional values, practices and knowledge can lay the solid foundations of a really happy and cohesive social living and social progress in our society by synthesizing the desirable modern values and practices. The task before Education, nay, our reformers in Education, is to find out how to achieve the fusion of the basic values of society from the past to the changing pattern of society, remembering the patent fact that even in the course of past 10,000 years the structural and elemental elements of Homospaiens have undergone only insignificant changes. It should also bear in mind that our traditional and modern values must supplement each other. We cannot at all feel safe if we reject one set of values totally and follow the other rushly. We all have to strike a healthy balance between the two. Many of our social scientists in India, even the self-styled party-made distinguished educationists of the day here, are so busy in giving a lip service to this proposition; they are not making any real and concrete efforts aimed at this. The result is that we are stuck in the multiple dimensionous web of value-conflicts relating to modernity and even denying the existence of the new values based on a dynamic concept of social relationships. The traditional social sciences do not yet have a dynamic concept of social relationship. Even the experiments that our educational reformers and planners are off and on doing with our age-old education system have also miserably failed to cultivate this very concept among the people of our country. Naturally the very few individuals who have reaped the fruits of education can perform their activities with the high sense of discrimination, devotion and duty. The majority of the educated people, as it is marked today, care a little to ensure social cohesion and to develop the spirit of tolerance and the mutual relationships between the individual and society. The tendency of self-preservation at the cost of the other is the net gain of the present-day education with which our social and educational planners are working since the emergence of Independence. In consequence the contemporary state in mass society is at present characterised by anomic and alienation.

These changes clearly reveal that our faulty conception or perspective of the reality of a man's life in our society today has been basically responsible for giving a wrong direction to our educational thinking and our educational efforts. We are almost lost in confusions of the worst type, and so many kinds of mistakes, follies, waywardness and crimes have been committed by us in our handling of the educational system as a powerful tool for the transformation of our society. It is hightime that we, educators, should correct our perspective and make a sincere effort under the spiritual concept embedded in our age old social context to develop a really functional social philosophy on which our educational system must be based.

Educational Malaises that have entangled our education

Let us now try to see the multiple dimensions of the unfortunately great educational malaises in which we find most of our educational institutions plunged today, and which instead of being eradicated are explicitly intensified by the paradoxical changes that our social leaders are trying to bring about with the help of frequently changing pattern of educational system. As a result we observe today in our social life wide spread normlessness or anomie, chaos, chronic confusion, discontent and lack of creative efforts. Little creativity and originality are to be found from amongst the entire generation of present-day learners. The educational institutions are now dominated by money power. There is exploitation in educational institutions. Discipline is now a myth; it is lacking in everyone—students and teachers. Education has failed to utilize student power collectively for the attainment of social harmony and well-being. Students are blind imitators of teacher politicians and political leaders; they become career-seekers, and are found of adopting agitational approaches, and disobey their teachers and even parents. There is no provision for the development of soul power. Honesty is lacking in it. There are unabashed untruth and deceit in them. Good manners are outmoded forms of behaviour. Intolerance is rampant. High esteem. Teachers have grown materialistic, worldly, selfish, and irresponsible. Authoritarian tendency is still dominant. Though we say that what we aim at is democracy. There is inadequate co-ordination between parents and teachers. Most of our curricula are framed from the point of view of personal interests of the curricula-framers. Cultural heritage, traditions, social mores and customs, and cultivation of spiritual integrity have been neglected in a most regrettable manner. We find the neglect of the village communities by the college-going students of the villages. The social disease of running of the social mobility has infested the educated mass in our society. There is a poor preparation for healthy social living, citizenship and international living. It is still under the harm-

ful influence of foreign ideas, fads, and behaviour patterns. It lays too much emphasis on argumentation and empiricism. Besides these ills that are vividly marked in our present-day Indian education after its reorientation for several times through the execution of recommendations as advocated by the different Indian Education Commissions, several points of criticism as varied by Indian scholars with a great deal of emphasis can also be cited here. Of them, the most important one is the lack of proper model of elder's behaviour which the present-day young generation is experiencing everyday acutely. The most difficult task on the part of the young today is to learn good behaviour without seeing any such model. It is also the pitiable experience to the conscious people that the youth leaders are only exploring ways to get into the corrupt establishment which it should be their duty to destroy. Today we are also recognised as the world's greatest verbalizers-slogan mongers ; perhaps our education has had a large responsibility for that. In the context it would not be superfluous to mention that quite a large part of our educational discussion is like lecturing on navigation, while the ship is going down. Moreover, the way that is being adopted today to train up our young generation in schools and colleges is tending to increase social segregation and wider class-distinction. What is worse is that this segregation is tending to widen the gulf between the classes and the mass. The modern trend of education as evinced in our country is responsible for this, and fails to create self-regard spirit within the educand on whom the social integrity, well-being and future progress of our country are to a great extent dependant. Lack of this very spirit results in enmass exuberance of aberrant behaviour among the youth as we experience now very often throughout the country. It is also needless to say that in magnitude the growth rate of education does not seem to be very impressive and phenomenal. Also the expansion of education has not led to a sociologically meaningful degree of social mobility and change in stratification system. Higher education is still confined to the upper classes, is a scarce good and reflects the advantages of wealth and social origin. Higher education in India stands as an immobile colossus insensitive to the changing context of contemporary life, unresponsive to the challenges of to-day and to-morrow and absorbed so completely in trying to preserve the structural form that it does not have the time to consider its own larger purposes. Education, a problem-solving instrument, has become a problem-generating mechanism. The unintended consequences of our faulty educational planning during the different plan periods have given rise to number of problems which are manifested in different symptomatic ways like casualty of the quality of education, sectorial imbalances in educational development, failure to balance unity with diversity, furtherance of class differences, unbridled exploitation of the masses by educational entrepreneurs, defeat of the

cherished goal of democracy, failure to remove the barriers to modernisation, widespread unemployment among the educated people, enmass distrust, lack of opportunity in developing proper interpersonal relationship among the pupils in general, uneasy status of teachers, and currency of slogans in the field of education. Besides these many of our highups in education are corrupt, hypocrites, exploiters, mediocre, unfearful of God and uninspiring. They are like fence which is itself eating up crop. The students naturally cannot have any real sense of veneration towards them. Thus we can very clearly see with our own eyes that our educational institutions are indeed burning in a wild fire and that the flames of this fire are rising up higher and higher and that we have already suffered a great damage from them. We have to extinguish the fire and rebuild our educational system with a great sense of urgency. For doing this it is essentially imperative to keep in mind that large scale experimentation in the structural pattern of our education system must not be done any further in the name of overhauling the pattern. What is necessary to do immediately is to evolve effective national policy for bringing the states and the union territories closer, to enforce the same type of curricular pattern in the education system of all the states and the union territories for minimising confusions and helping coordinate and maintain educational standards and designing course-contents in such a way that they must suit the aptitudes and abilities of pupils and also meet the socio-economic needs of the country, and that the course-contents must be related to the employment potential of the country. Educational and vocational guidance services at the Higher Secondary stage should be intensified. The schools in all the States and Union Territories must be provided with many more action-programmes conducive to the development of nationalism and national integration, as for instance, celebration of national days, frequent arrangement for discussing the significant values of the past heritage of India as a whole in schools of all shades and particularly in areas crowded with the downtrodden people, taking a loyalty pledge, inter-state excursions, inter-state participation in national festivals, showing educational and travel documentaries, particularly in the slum areas. At the university level more emphasis must be given to social service programmes; a compulsory paper on national integration must be introduced in the curriculum right from the primary stage of our educational system; and students must be helped develop a more catholic outlook and thereby work against the disruptive forces of casteism, racialism, regionalism, communalism and such like.

Practice in paper and not in action.

As is obvious to any one familiar with educational programmes in India not many of the above 'do's' have been in letter and spirit. Even in the

closing part of the 20th century the child who is recognised as the father of man is still regarded as a little devil both by most of the parents and teachers in India. But it is an accepted fact that every child irrespective of his heritage is an innocent and pious soul, heir to the rich cultural and spiritual heritage of India. He is indeed pure and inquisitive in his heart. His mind is not tabularasa (clear slate). It carries within it great potentialities which are to be blossomed out in an atmosphere of love, trust, care and patience by teachers, parents and all other elders. But as a matter of great regret this very aspect is practically overlooked by the parents, elders and even the teachers of almost all the schools except some missionary schools. Moreover, the youth of the day are seen to be led away by fashions, fads and excitement. This is due to their inexperience and youthful energies and lack of proper guidance and disciplined home and institutional environment. Even in the higher institutions the students find a great trauma for the traditionally corrupt order prevailing there also. To them teachers are considered mere givers of formal instructions and sellers of knowledge. The ancient ideal of Indian 'Guru' has become a myth to them. Teachers have lost all taboos of enjoying age old respect from the society at large. They are treated as mere cogs in a machine, parts of big bureaucracy or slaves of society. Their individuality and worth are relegated to the background by the power mongering politicians with whom some persons designated as teachers have also joined their hands to achieve material resources by selling knowledge.

CONCLUSION

It is high time on the part of the social planners, political leaders and educationists in India to ponder over the catastrophe prevailing in the present-day education system with sincere and earnest zeal and effort, if we sincerely want to mould our future generation as Indian nationals in the truest sense of the term. It should be kept in view that mere change of educational pattern will not help us achieve the desired goal, and will not give us the youth who have clear perception about the cultural and social heritage of our country and definite involvement with Indian soil. It should also be taken into consideration that mere transplantation of foreign ideals destroying Indian heritage and disregarding our by-gone ideas in the mind of the youth through our education system will give us such generation who will fail to destroy disruptive forces that are at present trying to develop a disjunctive spirit among them and among the people in general and to usher in a healthy social change—the change that can deliver the best good for the downtrodden people of our country.

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